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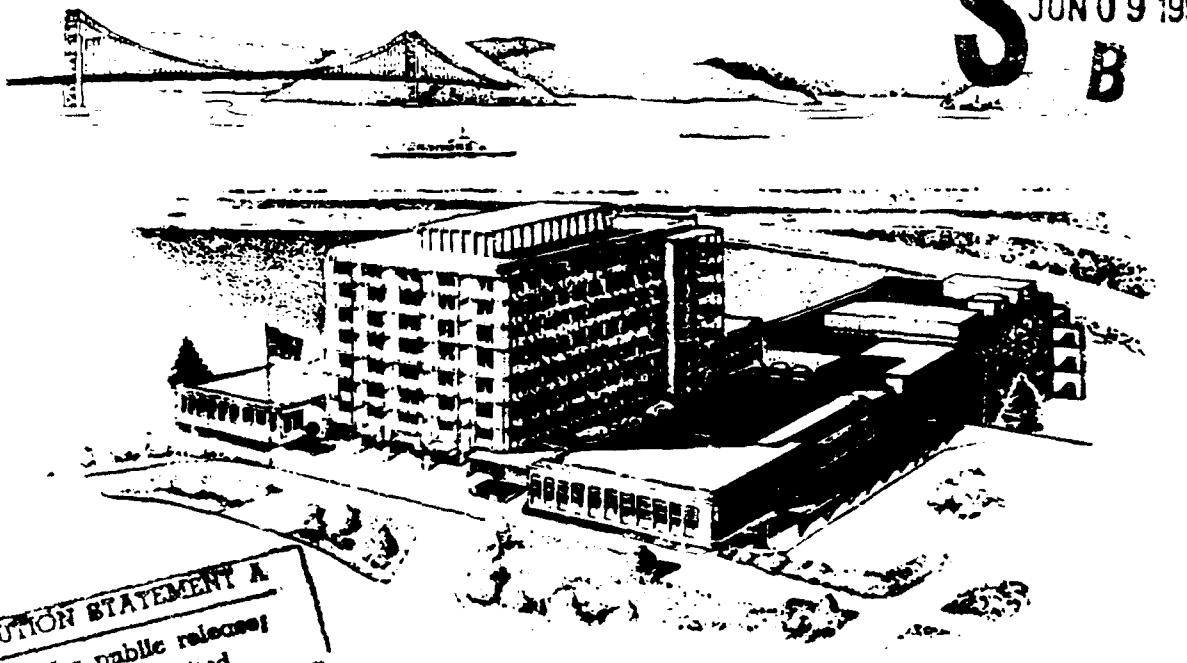

5 - 9 February 1990

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AMEDD CLINICAL PSYCHOLOGY SHORT COURSE

5 - 9 FEBRUARY 1990

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CHALLENGES FACING FORENSIC PSYCHOLOGICAL ASSESSMENT IN THE 1990S

Joseph D. Matarazzo
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Aurelio Prifitera
The Psychological Corporation
San Antonio, Texas

This study was carried out to underscore that the psychometric properties of the Wechsler Adult Intelligence Scale-Revised (WAIS-R) make it risky for a clinician to utilize, in isolation, an individual's highest WAIS-R subtest score as a robust measure of that person's supposedly higher level of "premorbid" intelligence, or, furthermore, to interpret the individual's lowest WAIS-R subtest scores as indices of an "impairment" in the brain-behavior functions believed to be mirrored by these low subtest scores. Analyses revealed that sizable differences (M = 6.66 points) between the highest and lowest WAIS-R subtests were the norm rather than the exception for the 1,880 Ss used in the standardization of this scale. Related psychometric properties of the scale that also bear on the use of the WAIS-R in isolation for determining either premorbid level of intelligence or current impairment are also discussed.

Almost from the very year of the introduction of the Binet Intelligence Scale over eight decades ago, psychologists have attempted to garner considerably more information about an individual examinee from intelligence test results than simply his or her IQ. Binet first introduced the suggestion that his scale could provide more diagnostic information than merely a single cognitive index when he observed that patients who were psychotic or alcoholic showed more subtest-to-subtest variability than did mentally retarded patients (i.e., they showed more "scatter" in their passes and failures on the scale over a larger number of year levels). However, a voluminous body of research during the past 85 years has failed to provide evidence that patients with different forms of psychological and psychiatric psychopathology produce differentially distinct patterns of intratest or intersubtest scatter on the Binet scale, the Wechsler scales, or other tests of general intelligence. Reviews of this extensive literature can be found in Matarazzo (1972, chap. 14) and Frank (1983).

Despite such lack of success, support for the use of differences in the subtest scores to provide information beyond IQ about the person examined has come from research in one area. That research has involved patients with penetrating head wounds, tumors, infections, cerebrovascular accidents, head injuries, and other demonstrable forms of brain pathology. Reviews of this voluminous literature correlating different patterns of Wechsler subtest scores with demonstrable brain pathology can be found in Bornstein and Matarazzo (1982, 1984), Frank (1983), Gregory (1987), Matarazzo (1972, chap. 13), and Reitan and Davison (1974). This body of literature reveals that, in terms of group means, patients with objectively demonstrable injury to their brains manifest: (a) a loss in overall level of measurable general intelligence relative to a level discerned from available comparative objective measures of premorbid general intelligence, and (b) a pattern of low scores on some subtests that correlates globally with the area of the brain affected (e.g.,

patients with injuries to the left sides of their brains earn lower Verbal IQs relative to their own current Performance IQs, and patients with injuries to the right sides of their brains earn lower Performance IQs relative to their Verbal IQs).

A few studies have reported additional findings with considerable potential clinical significance (Matarazzo, 1972, pp. 413-414), but even a decade later (Bornstein & Matarazzo, 1982, p. 330) cross-validation of such findings by others has been nonexistent or rare. Examples of such non-cross-validated findings are that, on the average, the scores on the 11 Wechsler subtests produce differentially identifiable profiles for patients with: (a) tumor versus vascular versus traumatic head injury, (b) an acute versus chronic brain lesion or injury, (c) fast- versus slow-growing lesions, or (d) an injury in the frontal versus one in the parietal versus one in the thalamic region, and so forth. Equally unsupported by publication of validated empirical findings, let alone their independent cross-validation, is another clinically and heuristically appealing characterization relating to individual Wechsler Adult Intelligence Scale-Revised (WAIS-R) subtests, as well as to specific subtests from other batteries. This is the thesis that different subtests validly assess brain-area-related, clear-cut, function-to-function differences in cognition-specific intellectual, memory, constructional, motor, orientation, attentional, executive, and other so called neuropsychological functions.

In view of this lack of validation, let alone cross-validation, the current common practice of rendering a clinical neuropsychological diagnosis of one of these brain dysfunctions, or of loss in one of these specific cognitive functions, based solely or in part on the differential pattern of "scatter" in a Wechsler scale profile should be considered art and not science. Practice of such art varies widely from clinician to clinician and reflects individual differences among these practitioners in training, clinical experience, acumen, and degree of confidence or tolerance for ambiguity and error in their own abilities to make such judgments.

However, a more common, and seemingly less controversial, practice among clinical neuropsychologists is the use of subtest-to-subtest scatter on a Wechsler scale for determining the "premorbid" level of general intelligence for a patient suspected of brain pathology. Literature reviews that strongly refute the earlier underpinning of this corollary practice of using subtests that allegedly "hold up" versus those subtests that "don't hold up" as an aid to diagnosing such organic cerebral pathology can be found in Frank (1983), Gregory (1987), and Matarazzo (1972). Such critical reviews notwithstanding, some current textbooks (i.e., Gregory, 1987; Lezak, 1983), although expressing a bit of caution, still recommend that, in the absence of other information, a neuropsychologist may use a patient's highest Wechsler subtest scores to determine the true level of premorbid general intelligence and use the concurrently determined lowest subtest scores as mirrors of cortical areas showing brain-behavior impairment.

Such a practice of determining a patient's premorbid level of general intelligence from his or her highest Wechsler subtest scores was vigorously recommended for psychiatrically impaired patients by Rapaport, Gill, and Schafer (1945), although the more recent literature reviews cited above have discouraged that practice. However, the practice continues today for individuals suspected to be brain injured, and it also continues to be taught in many graduate programs. Therefore, the purpose of the present article is to

identify and highlight two critically important clinical implications of the previously published findings of Matarazzo, Daniel, Prifitera, and Herman (1988). Specifically, our purpose here is to underscore the relevance of the psychometric properties of the WAIS-R published in the manual (Wechsler, 1981) but frequently overlooked and to present additional analyses of the data from the WAIS-R standardization sample in order to alert clinicians to the potential risks of determining an individual's premorbid level of general intelligence solely from his or her highest WAIS-R subtest scores.

METHOD

Subjects

Characteristics of the WAIS-R standardization sample are detailed in the test's manual (Wechsler, 1981). In brief, the 1,880 individuals ranged in age from 16 to 74, were evenly divided by sex, and closely matched United States Census distributions for geographic region, race, occupation, education, and community size. Not included in the sample were individuals with known brain damage, severe emotional or behavioral disturbance, physical handicaps that would interfere with response to test items, and those institutionalized for mental deficiency.

Measure of Scatter

The measure of WAIS-R intersubtest variability, or "scatter," used in the analyses described in the present article was the range--that is, the difference between each examinee's single highest and single lowest subtest scaled scores (which for each of the 11 individual subtests fell between 0 and 17 to 19 points). Its case of calculation makes this measure the index most often used by clinicians. Related data published in the earlier article by Matarazzo et al. (1988) revealed that range as the index of scatter had little relationship to age, sex, race, and years of education completed. However, as is evident in Table I, the mean amount of such scatter increased sequentially and substantially from the lowest to the highest IQ subgroups in the WAIS-R standardization sample. For all 1,880 subjects, the correlation between Full-Scale IQ (FSIQ) and scatter (range) across all 11 subtests was .33 ($p < .01$). The implications of this correlation are described in Matarazzo et al. (1988).

RESULTS

The Matarazzo et al. (1988) article on scatter contains tables, separately for the Verbal, Performance, and Full Scales, detailing for each of five IQ groups in the WAIS-R standardization sample the actual percentages of individuals whose difference (scatter) between their highest and lowest subtest scaled scores fell at each succeeding level between 0 and 17 points. Perusal of those data reveals that a high degree of scatter was the norm rather than the exception in the WAIS-R protocols of most of the 1,880 individuals upon whom the WAIS-R was standardized. A brief summary of those earlier published findings is shown in Table 1.

To better serve our purposes in the present article, we have amplified the data from the Full Scale that were published in our earlier article (Matarazzo et al., 1988) by including the Ns at each level of scatter and recasting them in Table 2 to make them more readily usable by practitioners.

Although the data reported in the WAIS-R Manual, as well as the present data in Tables 1 and 2, collectively highlight the risk associated with

determining premorbid IQ from an individual's highest subtest scores, the WAIS-R standardization data provide additional information that clinicians might find persuasive. Specifically, and utilizing as a criterion only that they each fall in a designated range, we randomly selected 20 protocols from among the 1,880 normal individuals in the standardization sample to display visually each range of scatter. Table 3 presents the scores on each of the 11 WAIS-R subtests for these 20 representative individuals whose person-specific amounts of scatter were 3, 4, 6, 7, 8, 10, 12, 13 and 15 points. (Table 2 shows how common each of these nine selected magnitudes of scatter was among the 1,880 individuals.) As shown in Table 3, these 20 individuals included 9 women and 11 men whose ages ranged from 16 to 74 and whose FSIQs ranged from 74 to 131.

DISCUSSION

Several findings in Table 1 are worth highlighting. First, not one of the 1,880 individuals in the WAIS-R standardization sample had the same score on all 11 subtests (i.e., a protocol with zero scatter). Second, for the total sample, with the Full Scale showing a range from 2 to 16 points, scaled score scatter averaged 6.7 points for the Full Scale and 4.7 points each for the Verbal and Performance Scales. And third, as also shown in Table 1, for each of the three IQ measures, the mean magnitude of scatter found in individual WAIS-R protocols increased with increases in IQ level. This latter finding is a heretofore unrecognized psychometric property of the WAIS-R and one that the practitioner who interprets the clinical significance of WAIS-R scatter must consider.

For each of the three scales, the data shown in Table 2 make it possible for a clinician to note the degree of scatter between the highest and lowest subtests shown by a patient and discern how frequently that same magnitude occurred in the sample of community-living citizens who comprised the WAIS-R standardization sample. As examples, for FSIQ, Table 2 shows that 1.0% of the WAIS-R standardization sample showed a range of 13 or more points of intersubtest scatter, that 8.6% showed 10 or more points, that 48.7% showed 7 or more points, and that 86.1% showed 5 or more points of such a difference between their highest and lowest subtest scaled scores. (Given that the magnitude of scatter is greater at higher levels of FSIQ, it is recommended that the practitioner wishing to be more precise consult Tables 4, 5, and 6 of Matarazzo et al., 1988, in order to take IQ level into consideration when interpreting the amount of scatter shown by any given examinee.)

It is worth repeating that for the Full Scale, 48.7% or one out of every two, of the WAIS-R standardization sample showed a difference of 7 or more points between their highest and lowest subtest scaled scores. The fact that these individuals were screened by experienced standardization examiners to rule out pathology suggests the risk involved in the clinical neuropsychologist using, without other objective confirmatory evidence, a patient's highest subtest scaled score as a measure of the patient's premorbid level of general intelligence.

Thus, the data in Tables 1, 2, and 3 form the basis for a modern restatement of an issue (see Matarazzo, 1972, pp. 47-50) debated 80 years ago by Spearman and Thorndike (and that was revived 30 years later by Thurstone). After each examined the same table of intercorrelations among many measures of academic and related cognitive abilities, Spearman insisted that an

individual's intelligence was composed primarily of a general (g) factor and that the evidence for specific abilities (s), although also present in such tables of intercorrelations (e.g., Table 16 in the WAIS-R Manual), was of relatively less import. Thus, as is shown here in Table 3, persons with the highest subtest scores earned comparably high scores on most of the remaining subtests; the opposite was true for those subjects earning the lowest scores; and the middle scorers fell between these extremes. This belief of Spearman's was vigorously challenged by Thorndike, and later by Thurstone, both of whom argued that individuals are endowed with a large number of independent specific abilities (s) that vary in strength from one to another and that are as important as the individual's general level of intelligence (g) in understanding the unique make-up of each person's measurable intelligence. Consistent with our own view, Spearman and Thurstone would have given as much weight to the range of scatter exhibited by each person in Table 3 (i.e., the equally obvious differential specific abilities) as to the clear-cut presence of g in the array of each set of 11 subtest scores.

Although such tables of intercorrelations and related data that support the Thorndike-Thurstone view (and our view) have been published since 1939 for each of Wechsler's intelligence scales, their relevance for undermining the two-pronged thesis that the highest subtest scores validly reflect "premorbid" level of intelligence and that the lowest subtest scores mirror "impaired" functions has heretofore not been sufficiently emphasized. In the WAIS-R Manual the correlation of each score on each subtest with the FSIQ, as well as the intercorrelations of scores on each of the 11 subtests with scores on each of the other subtests, is given in Table 15 for each age group and in Table 16 for the whole sample of 1,880 adults (Wechsler, 1981, pp. 36-46). The fact, shown in Table 16 (reproduced as Table 4), that the correlations between FSIQ and the scores on each of the 11 subtests are far from unity (ranging only from (or combination thereof) is an acceptable measure of a normal person's (let alone a patient's) presumed actual level of (premorbid) FSIQIQ. In addition, Wechsler's (1981) Table 16 (our Table 4) shows that whereas scores on some pairs of subtests show an acceptably high correlation (i.e., the score on the Vocabulary subtest correlates .81 with the score on the Information subtest), the correlation across other pairs of subtests is unacceptably and strikingly low, even in normal subjects, and certainly too low to permit using high and low subtest scores to ascertain impairment (i.e., the score on the Digit Symbol subtest correlates only between .38 and .47 with the score on each of the other 10 subtests).

Equally relevant to the argument that one should not use without objective corroborating findings the highest subtest scaled score as a valid measure of premorbid intelligence are two additional psychometric properties of the WAIS-R. The first, more general property, is the other-than-perfect test-retest reliabilities (ranging from .69 to .94) reported for the 11 subtests in Table 11 of the Manual (Wechsler, 1981, p. 32) and further detailed in a subsequent and more extensive analysis by Matarazzo and Herman (1984). The second, clinically more directly applicable psychometric property is the standard error of measurement of each of the 11 WAIS-R subtest scaled scores. The magnitudes of these standard errors indicate the actual band of error associated with each obtained subtest scaled score and highlight the risk of using a scaled score that is obtained in only one WAIS-R examination as an invariant quantitative index of a fixed, underlying brain-behavior attribute.

These standard errors are shown in Table 12 of the Manual (Wechsler, 1981, p. 33) and range from 0.61 of a scaled score point for the Vocabulary subtest to 1.54 points for the Object Assembly subtest.

For the clinician, a practical method of taking into account the standard error of measurement is to consider a band of scores extending two standard errors above and below the obtained score. Thus, an obtained Object Assembly (OA) scaled score of 9 communicates that the practitioner may be confident at the .05 level that the patient's true OA score falls between 5.92 and 12.08 (i.e., plus and minus 2 times the standard error of 1.54 points of the obtained score of 9), and at the .01 level that it falls between 5.00 and 13.00 (i.e., plus and minus 2.6 times that standard error). This use by the clinician of the obtained scaled score rather than the person's true subtest score, although not completely accurate psychometrically (Dudek, 1979), nevertheless provides what Gulliksen (1950) called the "reasonable limits" of a true subtest score.

Therefore, in addition to what is shown here in Tables 1, 2, and 3, each of these four additional psychometric properties (the other-than-perfect correlations between each subtest and FSIQ, the less than unity that characterizes the table of subtest-to-subtest intercorrelations, as well as the test-retest reliabilities, and the magnitudes of the standard errors of measurement of each of the 11 subtests) constitutes statistically robust evidence that a relatively high degree of subtest-to-subtest scatter was the rule rather than the exception in the 1,880 community-living individuals who were carefully screened to rule out psychological and organic pathology. Consequently, the current all-too-common practice of estimating, solely on the basis of a patient's highest subtest scaled scores and without other objective confirmatory evidence, the level of premorbid intelligence for an individual suspected of showing a current loss in intellectual function resulting from a brain disorder appears to be a risky practice in need of more scientific underpinning.

We hope that perusal of Table 3 will underscore for clinicians the need for caution in interpreting scatter to determine premorbid IQ. In isolation and without other objective corroborating evidence, a finding of a sizable degree of scatter in a WAIS-R record cannot be used ipso facto either (a) to estimate (using the highest scaled scores) the examinee's supposed "premorbid" level of intellectual function or (b) to identify areas (using the lowest scaled scores) of current cognitive "impairment."

However, clinical judgments such as these are possible when high and low subtest scaled scores like those shown in Table 3 are evaluated in a more comprehensive clinical context that includes (a) an individual's premorbid scores obtained on intelligence tests administered years earlier in the primary and secondary grades, as well as in the military or in other occupational settings; (b) years of schooling completed plus the lifelong occupational history; (c) the individual's medical history, including relevant signs and symptoms; (d) findings from hospital records, including one or more scans by computerized axial tomography (CAT), magnetic resonance imaging (MRI), positron emission tomography (PET), and other objective imaging procedures; plus (e) other relevant supplementary information obtained during the current psychological examination from the use of other tests developed to assess related neuropsychological and personality functions.

However, a caution is in order regarding the use of other neuropsychological tests. Some neuropsychologists use exclusively the supplementary finding of scatter among the subtests of the Halstead-Reitan Neuropsychological Battery as "objective" evidence confirming that scatter on the WAIS-R is mirroring an impairment in brain-behavior function. However, that subtest-to-subtest scatter is as common across subtests of the Halstead-Reitan Battery (and related batteries) as it is across subtests of the WAIS-R may be inferred, in part, from both tests' comparable (a) other-than-perfect test-retest reliabilities, (b) tables of subtest intercorrelations and (c) standard errors of measurement (Halstead, 1947; Matarazzo, Matarazzo, Wiens, Gallo & Klonoff, 1976; Matarazzo, Wiens, Matarazzo, & Goldstein, 1974).

When used as only one of a number of other documentable indices of loss of earlier intellectual capacity of the type that accompanies brain impairment, WAIS-R subtest-to-subtest scatter can be a highly useful datum. However, the findings presented here indicate that it is risky to use those same scatter data in isolation or buttressed only by findings from (a) a neuropsychological battery of tests or (b) subjective reports of cognitive symptoms unsupported by evidence from the patient's personal, educational, occupational, medical, and clinical histories.

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Table 1

Average Difference (Scatter) Between an Individual's Highest and Lowest Subtest Scaled Score: Data From the Three Scales of the WAIS-R Standardization Sample

	IQ range					
Scale	-79 (N = 165)	80-89 (N = 302)	90-109 (N = 924)	110-119 (N = 312)	120+ (N = 177)	All (N = 1,880)
Verbal						
Mean scatter	3.48	4.05	4.75	5.28	5.35	4.67
Range	2-8	2-10	2-12	2-13	2-10	2-13
Performance						
Mean scatter	3.36	4.32	4.81	5.05	5.53	4.71
Range	2-11	1-15	2-16	2-14	2-13	1-16
Full						
Mean scatter	5.02	5.93	6.85	7.15	7.65	6.66
Range	3-11	2-12	3-16	4-15	4-13	2-16

Note. WAIS-R = Wechsler Adult Intelligence Scale-Revised. Data in this table are from Tables 4, 5, and 6 (pp. 945, 946, and 947, respectively) of "Inter-subtest Scatter in the WAIS-R Standardization Sample" by J. D. Matarazzo, M. H. Daniel, A. Prifitera, and D. O. Herman, 1988, Journal of Clinical Psychology, 44.

Table 2

Full Scale: Percentage of Cases At or Above Each Magnitude of Scatter Across the Full Scale for the 1,880 Subjects in the WAIS-R Standardization Sample

Scatter: Difference in points between highest and lowest 11 subtest scaled scores	Percentage of cases showing this or more points of scatter	Number of individuals showing this magnitude of scatter
17	0.0%	0
16	0.1	2
15	0.3	4
14	0.4	2
13	1.0	11
12	2.1	20
11	4.1	38
10	8.6	84
9	18.1	180
8	31.9	258
7	48.7	316
6	69.1	384
5	86.1	320
4	96.5	195
3	99.6	58
2	99.9	7
1	100.0	1
0	100.0	0

Note. Mean scatter = 6.66 (SD = 2.08), median scatter = 6. WAIS-R = Wechsler Adult Intelligence Scale-Revised. Data in this table are from Table 4 (p. 945) of "Inter-subtest Scatter in the WAIS-R Standardization Sample" by J. D. Matarazzo, M. H. Daniel, A. Prifitera, and D. O. Herman, 1988, Journal of Clinical Psychology, 44.

Table 3

WAIS-R Standardization Sample: The 11 Subtest Scaled Scores of 20 Representative Individuals Showing Differences (Scatter) From 3 to 15 Points

				Subtest scaled scores[a]									
Range of scatter	FSIQ	Sex	Age	Inf	DS	Voc	Ari	Com	Sim	PC	PA	BD	OA	DSy
3	76	F	70-74	5	6	5	3	4	3	3	4	5	3	3
3	86	F	55-64	5	8	8	8	8	5	5	5	6	8	5
3	104	M	25-34	12	11	11	12	10	12	10	9	12	12	10
4	122	F	45-54	12	12	12	13	11	14	12	12	12	12	10
6	77	F	25-34	8	9	8	6	6	9	3	7	4	5	8
6	85	M	25-34	10	10	11	10	8	7	8	6	5	5	8
6	100	M	65-69	10	11	10	8	9	10	8	6	7	6	5
7	111	F	70-74	12	9	12	6	10	9	10	6	8	9	5
7	131	M	16-17	12	13	12	15	13	14	12	9	11	9	16
8	81	M	65-69	10	8	8	6	6	2	6	2	2	3	2
9	74	M	25-34	5	4	4	4	3	6	9	6	5	12	6
9	95	F	45-54	14	6	11	7	12	9	10	7	6	5	6
10	87	F	25-34	9	8	7	9	6	8	10	9	6	5	15
10	115	M	25-34	16	6	15	13	13	11	12	11	12	13	12
10	123	F	55-64	15	8	13	9	18	10	8	15	8	11	13
12	101	F	18-19	6	8	9	7	13	9	10	17	9	9	5
13	116	M	45-54	16	11	9	11	4	14	12	6	17	13	12
13	131	M	70-74	16	14	19	12	13	15	6	10	10	6	6
15	96	M	35-44	11	2	11	9	7	10	14	11	1	8	16

Note. Abbreviations: WAIS-R = Wechsler Adult Intelligence Scale-Revised; FSIQ = Full-Scale IQ, F = female; M = male, Inf = Information; DS = Digit Span; Voc = Vocabulary; Ari = Arithmetic; Com = Comprehension; Sim = Similarities; PC = Picture Completion; PA = Picture Arrangement; BD = Block Design; OA = Object Assembly; Dsy = Digit Symbol. Data in this table are from the WAIS-R standardization sample.

[a]Using the scaled-score conversions for the "reference group" (ages 20-34).

Table 4

WAIS-R Standardization Sample (N = 1,880): Average Intercorrelation of the Tests for Nine Ages

Test	Inf	DS	Voc	Ari	Com	Sim	PC	PA	BD	OA	DSy	Verbal score	Performance score
Digit Span (DS)	.46												
Vocabulary (Voc)	.81	.52											
Arithmetic (Ari)	.61	.56	.63										
Comprehension (Com)	.68	.45	.74	.57									
Similarities (Sim)	.66	.45	.72	.56	.68								
Picture Completion (PC)	.52	.37	.55	.48	.52	.54							
Picture Arrangement (PA)	.50	.37	.51	.46	.48	.50	.51						
Block Design (BD)	.50	.43	.52	.56	.48	.51	.54	.47					
Object Assembly (OA)	.39	.33	.41	.42	.40	.43	.52	.40	.63				
Digit Symbol (DSy)	.44	.42	.47	.45	.44	.46	.42	.39	.47	.38			
Verbal scorea	.79	.57	.85	.70	.76	.74	.61	.57	.61	.49	.54		
Performance scorea	.62	.50	.65	.62	.61	.64	.65	.56	.70	.62	.52	.74	
Full Scale scorea	.76	.58	.81	.72	.74	.75	.67	.61	.68	.57	.57	---	---
Average correlation of tests with Verbal, Performance, and Full-Scale scores before correction for contamination													
Verbal Scorea	.86	.69	.90	.80	.84	.83	---	---	---	---	---	---	---
Performance Scorea	---	---	---	---	---	---	.79	.73	.82	.77	.70	---	---
Full Scale Scorea	.81	.66	.85	.78	.79	.80	.73	.68	.74	.64	.65	.95	.91

Note. The coefficients of correlation were computed from scaled scores. The average coefficients were computed by transforming each r to Fisher's z statistic, and reconverting the mean z value to the equivalent r. The data and table are from Wechsler Adult Intelligence Scale-Revised (Table 16, p. 46) by D. Wechsler, 1981, New York: The Psychological Corporation. Reprinted by permission.

aVerbal score is the sum of scaled scores on the 6 Verbal tests; Performance score is the sum of scaled scores on the 5 Performance tests; Full Scale score is the sum of scaled scores on all 11 tests. Coefficients with these variables in the main body of the table have been corrected to remove contamination.

POST-QUAKE SUPPORT: PROJECT CARING

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1. Many of us may be coping with normal emotional reactions to an unusual stressor, the earthquake and its aftermaths. The stressors may effect us individually, our family, or our work associations. Acknowledgment of these reactions and certain self-help techniques help speed recovery and prevent complications.

2. Although there is no "right" way to feel, the following are the most common reactions we observed in ourselves and in those we worked with following the quake.

- physical/emotional fatigue
- time distortion
- fear of reoccurrence
- forgetfulness
- irritability/anger/liability
- sleep problems
- nightmares
- sadness/depression
- guilt
- hypervigilance
- disbelief/feeling of unreality
- anxiety/flashback
- sense of loss of control
- emotional numbing
- worrying about feeling normal

3. Not everyone will experience these reactions. For those who do, time of onset and the form of the reaction varies from individual to individual, and from day to day in a given individual.

4. Individual self-help

a. Talk about your reactions, thoughts and memories. Don't hold them in or feel embarrassed about your need to repeatedly talk to people.

b. Maintain regular pattern of daily activity: don't forget rest, sleep, diet, exercise. Keep up familiar routine and postpone major new projects.

5. Group self-help: Initial pulling together can give way to irritation, especially with prolonged but lower level stress involving the aftermath of the quake (e.g., increased commuting time, displacement from previous loading/office, overcrowding, etc.). Most of us assume that the way of reacting which works for us (e.g., being more quiet or being more talkative) is the RIGHT way to react. Understanding that different reactions may all be normal is a major first step in group cohesion. Rap groups talking about different reactions and rebuilding the familiar routine as quickly as possible are helpful applications of the individual self-help model to groups. Many times strong anger is expressed about long-standing problems in the group. Although the intensity of

the anger may not be justified by the specific issue (and is likely fueled by feelings associated with the quake), the problem is genuine and should not be dismissed. It is important to separate the problem and the anger, and to deal with both, but separately.

PROJECT CARING

Just like small tremors and after-shakes following an earthquake, emotional reactions following a disaster are normal. As you adjust to the physical and psychological stresses of the earthquake, you may discover that you or someone close to you is coping with certain normal reactions to stress. There is no "right" way to feel. Common feelings include:

- Trouble falling asleep or difficulty sleeping through the night
- Nightmares
- Emotional and physical fatigue
- Irritability
- A fear of reoccurrence of earthquakes that intrudes upon your daily activities
- Anxiety throughout most of the day and intrusive recollections of the quake
- Disbelief and a sense that things are unreal
- Emotional numbing
- A sense of loss of control over your life
- Feelings of guilt
- Feelings of depression

In children we often see a somewhat different pattern depending upon the child's age. In addition to the reactions listed above, children may show:

- Changes in conduct and increased discipline problems
- Regressive behavior such as bed wetting, excessive dependence, clinging and whining, etc.
- Distractability and inattention
- Heightened curiosity about safety
- School problems including reluctance to attend school and worries about being away from parents and family

Not everyone experiences these reactions. For those who do, the time of onset and the form of these symptoms of stress will vary from individual to individual.

It is important not to ignore these signs of stress. For most people these symptoms will be mild, and discussing the experiences surrounding the earthquake with family and friends will be enough. To aid you and your family in this regard "rap groups" will give you an opportunity to share in each others' experiences. If you would like to share your experiences with others, LAMC Department of Psychiatry, along with Social Work Service, Chaplains Service and Army Community Service is ready to help facilitate rap groups at the time and place of your--choosing. Rap groups (earthquake support groups) at the work place, in units, housing areas, barracks, hospital, etc. for active duty, for family members and for civilian employees can facilitate the healing process through this difficult time.

GENERAL PRINCIPLES OF PSYCHOLOGICAL FIRST AID

Following a disaster there may be persons who are overwhelmed by the event and have difficulty in coping with the situation and their emotions. You, family members and friends may be able to help others if you know the basic steps of Psychological First Aid.

What Is Psychological First Aid?

First Aid is just what its name implies. It is the initial help received by a person in trouble. Such aid should be concerned only with the immediate situation.

- Attempt to calm the victim. Relieve the anxiety and stress.
- Communicate confidence in yourself, as well as concern for the victim. Show you care by your attitude.
- Accept a person's limitations as real.
- Encourage the person to speak freely about whatever is on his mind. Be very patient.
- When the person begins talking, interrupt as little as possible.
- Practice "Active Listening."
- Do not argue with the person if he disagrees with you, and do not impose your ideas upon him. His own solution will be the most successful for him.
- Accept your own limitations, in a relief role. Do not attempt to be all things to all people. Do what you can and obtain additional help from a qualified counselor.

Emotional and Psychological Considerations in a Disaster

Disaster is a crisis in itself, however, disaster increases the crisis situation when it is accompanied by:

- Job and/or financial difficulties
- Death
- Illness
- Injury
- Loss of personal belongings
- Family problems, including separation

Factors in dealing with a crisis, your own or that of family or friends:

- To be able to talk about the experience and express the feelings accompanying the experience.
- To face and be fully aware of the reality of what has happened, and to be assured that you are with caring people.
- To resume concrete activity and be able to reconstruct the predisaster life routine as soon as possible.

A key point to remember concerning disaster preparedness and the psychological factors involved is:

- The more planning that can be done beforehand, the better the family will be equipped to deal with the disaster.

COPING WITH CHILDREN'S REACTIONS

Fear and Anxiety

- Fear is a normal reaction to any danger which threatens life or wellbeing.
- What is a child afraid of after a disaster?

  1. He is afraid of recurrence or injury or death.
  2. He is afraid of being separated from his family.
  3. He is afraid of being left alone.

- Parents tend to ignore the emotional needs of the child once they are relieved that nothing "serious" has happened to the family.
- One must recognize that a child who is afraid, is very frightened!
- A first step for parents is to understand the kinds of fear and anxiety a child experiences.

Advice to Parents

- It is of great importance for the family to remain together.
- The child needs reassurance by the parents' words as well as their actions.
- Listen to what the child tells you about his fears.
- Listen when he tells you about how he feels, what he thinks of what has happened.
- Explain to the child, as well as you can, about the disaster, about the known facts, and again, listen to him.
- Encourage him to talk.
- A child's fears do not need to completely disrupt his and the family's activities.

Settling Down

- Parents should indicate to the child that they are maintaining control: they should be understanding but firm, supportive, and make decisions for the child.
- It is natural for a child to want to be close to his parents, and for the parents to want to have the child near them.
- Parents should also be aware of their own fears and their own uncertainty and of the effect these have upon the child.
- Children respond to praise and parents should make a deliberate effort not to focus upon the child's immature behavior.

How Can the Parents Recognize When to Seek Professional Help?

- If a sleeping problem continues for more than a few weeks, if the clinging behavior does not diminish, if the fears become worse, it is time to ask for professional advice.
- Mental health professionals are specially trained to help people in distress. They can help parents cope with and understand the unusual reactions of the child. By talking to the parents and child either individually or in groups, a child's fears can be overcome more easily.

POST-TRAUMATIC STRESS SYNDROME

Persons who are involved in a distressing event outside of the range of usual experiences (i.e., earthquakes, war, violent crime) sometimes experience intense feelings of fear, terror, and/or helplessness. The constellation of feelings which surround such distressing events has been named post-traumatic stress syndrome. The duration of symptoms is usually one month or less, but in some cases symptoms may last 6 months or more, particularly with delayed reactions which often do not manifest themselves until some weeks after the distressing event.

Some Symptoms of Post-traumatic Stress Syndrome

- Irritability
- Outburst of anger or difficulty in expressing anger.
- Trouble falling asleep or staying asleep.
- Feeling of numbness, detachment, estrangement, or emotional distance with self and others, including loved ones.
- Lack of desire (or increased desire) for physical or sexual contact.
- Recurring or intrusive recollections of the traumatic event.
- Desire to abandon responsibilities; to "run away from it all."
- Difficulty concentrating or completing tasks; failing memory.
- Exaggerated startle response.
- Physical symptoms, "flu," headaches, diarrhea. upset stomach.
- Loss of control, guilt, embarrassment.
- Other symptoms?

What You Can Do to Cope with Feelings Associated with a Stressful Experience

1. People sort out other feelings about stressful experiences in different ways. Introverts, for example, typically process feelings internally and extroverts typically want to talk to lots of people. In addition, people have different internal timetables for processing stressful situations. Some want to deal with their feelings on the spot, and some prefer to get to their feelings later on. There is no right or wrong way to process the feelings of a stressful experience.

2. These are some of the things you can do to sort out the feelings of a stressful experience.

- Tell people about your experience.
- Write about your experience.
- Draw about your experience.
- Increase your physical activities.
- Talk with your family, friends, co-workers, church, or social group.
- Ask your friends about ideas of what they are doing to cope.
- Join a counseling support group.
- See a counselor for individual counseling sessions.
- Focus on what you can do to help others in distress.
- Practice relaxation, meditation, or prayer activities.
- Other ideas?

Some Practical Things You Can Do to Regain a Sense of Control Over Your Life in an On-going Stressful Situation

1. Know what practical things you can do to be prepared for on-going earthquake stress:

- Duck and cover
- Stand under a doorway
- Know emergency routes
- Sleep in your clothes, put flashlights, wallets, shoes, etc. close by.
- Other ideas?

2. Resume your normal program of activities as quickly as you can.

3. Pay careful loving attention to yourself--eat nutritional foods, get plenty of rest, drink liquids, and increase other self-nurturing activities.

4. Follow a program of active exercise.

5. Don't deny that you feel stressed or out of control. (Denial of feelings can add to their increased intensity.) Keep "processing" as long as needed.

OLDER ADULTS' ACTIONS TO DISASTER

Major Factors Affecting Older Adult's Response

- Health
- Physical capabilities
- Mobility
- Self-sufficiency/dependency

Common Feelings, Behaviors, Needs

Losses.

1. High proportion of personal loss and injury (live in dwellings susceptible to wind, water, and earthquake)

2. High sense of loss of plants, landscape, sentimental items.

3. Less able to "start over"

   - money
   - time

4. Past losses rekindled by disaster (especially recent losses of spouse, friends).

5. Slower response to full impact of losses than other age groups.

Fears and anxieties.

1. Healthy individual: experience less anxiety than younger age groups.

2. Individuals with health problems:

   - greatest fear is of being institutionalized
   - may conceal full extent of their problems/needs

MILITARY FAMILIES

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I am delighted to kickoff this section of the clinical psychology short course. I think what you are doing is important. I think what you are doing contributes to readiness. Picture with me the following scene. It is 4:30 a.m. in the small apartment that is home for a young soldier, his wife, and their new baby. The alarm clock goes off, and the soldier rushes to his unit's morning formation. He may not be back until late that evening--or even for several days--because the army is not a "9 to 5" job. His young spouse has to deal with that uncertainty, as well as their child and--very likely--her own job. Most spouses of our young soldiers have to work, because it is very difficult to support a family on the pay of a specialist. We must do all we can to improve the quality of life for this soldier and his family--and the tens of thousands like them. If we don't, the Army is in trouble. With more than half our soldiers married, when we lose a family, we lose a soldier.

Recognition for the military family and its special problems, concerns, and needs has been a long, slow process. Until the 1890s, the military virtually ignored the presence of families, though they certainly existed. One hundred years ago the Army, and Army life, was almost exclusively male. Our nation's frontiers were still being settled, and many soldiers were stationed at remote, primitive forts throughout the west. Few, if any, provisions had been made for families to go along with these soldiers. A lieutenant's quarters, whether he was married or n , consisted of only one room and a kitchen. An additional room was added for each promotion. A young lieutenant's wife who complained of the cramped, inadequate conditions was told, "Why Martha, didn't you know that women are not reckoned on at all by the War Department?"

The Army of that era was known as the "Army of deserters" because so many soldiers went AWOL rather than complete the terms of their enlistment. One reason many AWOL soldiers gave for deserting was that they wanted to get married and raise a family, and the Army was no place to do it. A survey in the 1889-1890 era gave evidence of how few families existed. The survey showed that out of 25,000 soldiers, only 18 officers and 34 enlisted men got married that year. In the same period, only 436 children were born to the wives of officers and enlisted men.

Family recognition really started at the end of the Spanish-American War in 1898. For the first time, allotments for families of enlisted soldiers were extended to peacetime. The same benefits were finally extended to officers' families during World War I. However, the road ahead was still a long and difficult one. Military families were still the exception, rather than the rule. In 1907, a survey of 101 Army posts showed that 18 posts had no school age children. Only one post had as many as 40 children, and only 15 posts had schools. Many of those were run by parents.

In 1913, an Army regulation admitted marriages did exist, but strongly discouraged them. The regulation stated that marriages "must be for some good reason in the public interest, but the efficiency of the service is to be the

first consideration." Until World War II, soldiers enlisting in the Army had to specify, in writing, that they were unmarried and had no children. Soldiers were allowed to get married after completing their first enlistment. However, in 1936, military life was considered so unattractive that only 21% of our enlisted soldiers were married. However, with the advent of World War II, change was accelerated. Though enlistees still had to be single, those drafted did not. Within a year, all the services had hundreds of thousands of married servicemen, and families, in their ranks. Some daring wives followed their husbands. Such was the case in my hometown, which had a great influx of "furriners."

Military families received official recognition in 1942. Public Law 490 established dependency benefits, including some obstetrical care. That same year, Army Emergency Relief was also established, with the express purpose of helping the Army "take care of its own." It was also during World War II that women officially became part of the Army. Until then they had only served in the Auxiliary Nurse Corps. After the war, many of the married soldiers returned to civilian life. However, the great social changes--many of which were introduced by the war--had altered our nation, and our military, forever.

When I first entered the Army in the 1950s, it was still common to hear the old saying, that "If the Army had wanted you to have a wife, it would have issued you one." In my first platoon, there was one officer and there were 44 enlisted soldiers. Only four of the men were married. Even then, the Army was in the midst of a great transition. In the pre-World War II days only officers and senior NCOs were married. By 1955, 42% of our servicemen were married. By 1960, family members outnumbered those in uniform. For the next 20 years, the military services struggled with these changes.

In the Army we established the army community service program and a survivor's benefit program. We recognized that spouses of female soldiers were also "dependents," and we established an Army-wide quality of life program. During the last 10 years military family programs have really started to proliferate. So, too, did the recognition of their importance from an organizational effectiveness point of view. In the 80's I heard Army Chief of Staff General John Wickham say "we recruit soldiers, but we retain families." By then, more than half our soldiers were married. Also in 1980, the first Army family symposium was held. It was a grass roots conference organized by Army wives. My wife, Jo, was one of the attendees.

In 1981, the Department of Defense established a family advocacy program. That same year the Army Family Liaison Office was instituted. Quality of life programs have received increasing recognition during the 1980s. The basic premise is that the Army community expects a quality of life similar to that of the society it serves. Certainly, that is a very reasonable expectation. The Army further recognized its changing makeup by declaring 1984 "the year of the Army family." That year we focused on expanding the concept of a caring partnership between families and soldiers, and between families and the Army.

Conferences like today's are an outgrowth of the changes in our society and in the military. Some of the topics on your agenda reflect concerns prevalent in the civilian community. That is good, because the military is, and always has been, a microcosm of our society. Other topics you will discuss are specific to the military. That, too, is good; because military families have special concerns and problems--and are very special. As a commander, I am

pleased to note that this year's conference will have an expanded discussion of the role of the command in family life. Commanders at all levels--in all services--in all components--must make it their business to insure the finest in family services are available for their servicemen and women.

Finally, as both a commander and one who has been a military family member for many years, I am delighted that this conference is going on here at the Presidio. During the last 200 years military families have gone through a great deal. First, we were ignored and barely tolerated. Slowly that changed to the point families were seen as almost a necessary evil. Being viewed as people who must be provided with services to insure retention rates remained high. Retaining good soldiers is important, but I think we are moving into a new, more enlightened phase of military history regarding military families. That is the realization that taking good care of our soldiers and family members is "the right thing to do." It is a moral and ethical responsibility incumbent on all commanders. A debt we owe to our men and women in uniform for their service to our great nation. I wish you every success in your important day's work and thank you for inviting me to address you.

FAMILY PSYCHOLOGY: A BURGEONING FIELD

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In its 30-year history, family therapy has had phenomenal growth, from an almost underground position to wide acceptance. In 1973, the field had only one professional journal, Family Process; today there are nearly two dozen family therapy journals, about half of them published in English, and more than 300 freestanding family institutes in the United States alone. The American Association for Marriage and Family Therapy, one of the better known professional organizations, dates from 1945; its membership has grown from just under 1,000 in 1970 to more than 11,000 in 1983. In 1977, after a long gestation period which avoided premature crystallization of the family therapy field, the American Family Therapy Association was organized.

Many patients find that it makes sense for them to participate in a kind of therapy that provides a window for direct observation of how they and their loved ones interact. Family members also appreciate a forum for airing and resolving differences in which they are actually present and able to respond, rather than remaining outside the process.

Widespread concern about fragmentation of the family, particularly in the United States, has probably been responsible for some of the increasing public acceptance of family therapy. Family therapists often focus on working out practical solutions to problems at home, frequently using a "down-to-earth," direct approach.

With family therapy's great growth and acceptance, however, misconceptions have arisen and sometimes have proliferated. These include the assumption that family therapy is always the treatment of choice and the associated notion that other treatment modalities, such as individual therapy or chemotherapy, are incompatible with family therapy. Such attitudes have been eroded: from the psychoanalytic direction by Grotjahn (1959) and from the family therapy direction by Hallowitz (1966). Pearce and L. J. Friedman (1980), Stierlin (1977), and Glick and Kessler (1980) provided bridging perspectives. A broadened view of family therapy also can be gained from books detailing case studies such as those by Haley and Hoffman (1967), Napier and Whitaker (1978), and Papp (1977).

There is a misconception that family therapy must always include the whole family. Various realities of family living make this rule impractical; however, absent members communicate indirectly about the system. Another misconception is apparent when participants are limited to members of the immediate household or nuclear family. It may be important to include not only all household members--such as in-laws, uncles, and boarders--but it also may be important to include members of the nuclear family who do not live in the same household. Furthermore, there may be distinct advantages in including many members of the extended family, and some therapists find it helpful to work with several unrelated families. Some family therapists have also found it useful to apply "network" approaches (Speck & Attneave, 1973) involving the family's friends, teachers, lawyers, probation officers, employers, and even business partners in the family therapy situation. The principles of human

communication and systems theory have been successfully applied to business partnerships struggling with problems that proved similar in many respects to those occurring in families. The growing field of mediation is now rediscovering these similarities but is also discerning the differences.

Family therapy is not so much a technique as a viewpoint. This viewpoint is often termed family systems orientation. It is important to understand this way of thinking if the significance of the family therapy movement is to be appreciated.

Revolutionary strides were taken when Pinel struck the chains from "asylum inmates" and when Freud used talking treatment to understand unconscious determinants of behavior. Current mental health concepts have shifted the focus from individuals to the groups with which they interact and to the interpersonal behaviors that constitute observable events which thus influence and are influenced by their community. Thus, family therapy constitutes one aspect of what might be termed "the sociotherapeutic shift." This orientation has been defined by Strauss et al. (1964) and Langsley (Langsley & Kaplan, 1968; Langsley, 1980).

The two most salient features of the sociotherapeutic shift are its emphasis on sociological as well as psychological factors and its attention to synthesis as well as analysis. These concepts converge in those forms of therapy which emphasize the forces of building and sustaining relationships between people, such as group therapy in general and family therapy in particular.

Family therapy, through its concern with individuals and their contextual systems, extends attention beyond what goes on within the individual to observing what actually happens between people. Several fundamental changes in our thinking occur because the nature of our questions changes, causing us to seek different solutions with a heightened appreciation of the fact that even individual therapy and testing are misnomers since the context is at least dyadic. Some concepts of causality must also change as interpersonal interactions are increasingly viewed as the contexts in which intrapersonal phenomena emerge and are maintained.

While all forms of therapy support the goal of helping patients become more responsible, family therapy may derive some of its growing popularity from the fact that it recognizes an intermediate condition that is neither pure independence nor pure dependence, namely interdependence. This condition is no mere compromise: It is a richer and more complete description of each family member's situation. Moreover, it leavens the burden of responsibility with a recognition that each family member is affected by the others. This recognition of interactional impact, in turn, entails for each family a greater impetus to exercise maximum individual responsibility. Dilemmas develop with the recognition that conflicts of interest abound, but family members may derive some comfort from appreciating that the burden is shared since they are all in it together.

HISTORICAL BACKGROUND

Family therapy is both very new and very old. Only in the past three decades have family members been seen together for therapy. It was not until 1959 that the field was given a special phrase specifically describing the

situation in which the whole family works with the same therapist in the same room at the same time: "conjoint family therapy" (Jackson, 1959). The essential features of this form of treatment had been reported 6 years earlier by Bell (1953), but he later credited his breakthrough to a misunderstanding of a secondhand account of Bowlby's family-focused treatment. Bell attributed his courage to his misconception that another therapist had broken the ice (Bell, 1961).

Fortunately for the field of family therapy there will probably be no polemics about who can claim priority. Don D. Jackson, while vacationing in Hawaii in the summer of 1966, verified a rumor, passed along to him by Gregory Bateson, of an ancient tribal tradition presaging even a logical but radical development in family therapy: "network therapy" of extended family social systems sometimes including dozens of related participants.* Jackson spoke with an octogenarian practitioner of the ancient art of O'Ho Puna Puna, who told him that she was the last of a line of women charged with responsibility for helping families with their problems. She brought together all family members whose presence struck her as potentially helpful. Any family member with a grievance was required to report to her, and even the more distant relatives were supposed to carry such tales to her. Family members were bound by custom to let such interventions inform their hearts as arrows of loving communication rather than as shafts of hateful tattling. The tribal tradition of O'Ho Puna Puna is many centuries old, yet refreshingly free from the weighty theoretical superstructure that sometimes stultifies the spontaneity and common sense of "modern" therapists in their work with families.

A seminal paper for the field of family therapy probably appeared in 1937 in the Bulletin of the Kansas Mental Hygiene Society. This lead article, by Nathan Ackerman (1937), was titled "The Family as a Social and Emotional Unit." In his opening paragraph Ackerman laid the cornerstone for the field of family therapy:

> None of us live [sic] our lives utterly alone. Those who try are doomed to a miserable existence. It can fairly be said that some aspects of life experience are more individual than societal, and others are more social than individual. Nevertheless, principally we live with others, and in early years almost exclusively with members of our own family.

Ackerman viewed his family work as stemming from roots in the child guidance movement, a fact he feared would be forgotten as a rash of reports appeared on schizophrenia. Salvador Minuchin and Dick Auerswald worked in the former tradition at the Wiltwyck School in the early 1960's, where they treated

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*Speck, R.V. Psychotherapy of the social network of a schizophrenic family. Presented at American Psychological Association, New York, September, 1966.

and studied the families of delinquent boys. Nevertheless, as Guerin (1976) observed,

> Family research with schizophrenia was the primary focus of the majority of pioneers in the family movement: Bateson, Jackson, Weakland, and Haley in California; Bowen in Topeka and Washington; Lidz in Baltimore and then in New Haven; Whitaker and Malone in Atlanta; Scheflen and Berkowitz in Philadelphia.

Two institutes have had a seminal role in the family field. In 1959 Don Jackson founded the Mental Research Institute (MRI) with Jules Riskin and Virginia Satir as the original staff, and with John Weakland, Jay Haley, Paul Nazlawick, and Dick Lisch joining shortly thereafter. The development of MRI's "interactional view" over two decades is described by Bodin (1981). In 1960 Nathan Ackerman founded the Family Institute, renamed the Ackerman Institute only after his death. The Psychodynamics of Family Life (Ackerman, 1958) was the first book devoted to the diagnosis and treatment of family relationships. In 1961 Don Jackson and Nathan Ackerman founded the journal Family Process, which has proved to be an important influence in integrating the field.

The growing literature of family therapy has been compiled in bibliographies by Framo and Green (1980) and by Glick et al. (1982). They recognized a truth stated by Luther H. Evans, Librarian of Congress: "Without bibliography, the records of civilization would be an uncharted chaos of miscellaneous contributions to knowledge, unorganized and inapplicable to human needs." Landmark work includes the first book detailing techniques for doing family therapy, Conjoint Family Therapy, by Satir (1967), a systematic overview by Goldenberg and Goldenberg (1980), a collection of commentary on major contributions selected through a survey of family therapists by Green and Framo (1981), and a handbook by Gurman and Kniskern (1981) organizing the field around 10 themes central to any approach and useful in studying and teaching family and couples therapy.

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REMARKS ON TRAINING OPPORTUNITIES IN FAMILY PSYCHOLOGY

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Week before last I had the pleasure of representing the California Graduate School of Family Psychology at the midwinter conference of the National Council of Schools of Professional Psychology. That meeting was held at another great armed forces service city, San Antonio. There I experienced a number of reminiscences centered on many years ago when I served on active duty as a clinical psychologist at the USAF School of Aviation Medicine, then located at Randolph Air Force Base. Chief among these memories was the friendship, warmth and respect I felt for my fellow officers. Thus, whenever I have the opportunity to get to know and work with service psychologists, I particularly value the experience. So when Drs. Zold and Settles invited me to make a few remarks today, I was delighted.

My comments on opportunities for training in family psychology are organized under three rubrics: observation and experience, reading, and national family psychology programs of significance.

First, for those interested, but not yet involved in family psychology, I would simply make a call for you to observe family relationships closely whenever you have the opportunity. Let me give you an example of an early clinical experience of mine which changed my thinking, but also demonstrates the difficulty which those of us trained intrapersonally initially can have in shifting viewpoints. Perhaps your shift has already occurred or will with much more rapidity than mine.

Somewhat over 20 years ago an event in my professional life occurred which played a major role in shifting my view of "psychopathology" from a solely individual focus to encompassing a family frame. I had been awarded a grant from the National Institute of Health (NIH) to conduct a follow-up study of alcoholics and their spouses after treatment at our alcoholism outpatient clinic in Oakland, California. One year after treatment we located, interviewed, and retested more than half the patients we had seen the previous year. In comparing our follow-up data with pre-treatment data we discovered what appeared to be a grievous error in our record keeping. At follow-up about 10% of those former patients labeled "alcoholic" now presented themselves as spouses of alcoholics and about 10% of those formerly labeled as spouses of alcoholics appeared to have drinking problems or were alcoholic. We wanted to resolve this unexpected outcome by blaming an inefficient clerk. But a careful check of our records eliminated her as an easy scapegoat. As I considered my clinical experience I realized that this phenomena made sense; some of the formerly active male alcoholics and their spouses were changing roles and the alcoholic family system problem persisted. Although I had seen role reversals in my clinical work with alcoholics and their spouses, it was not until this unexpected research discovery that I conceptually integrated the need for balance in the marriage relationship.

At that point I shifted to seeing all alcoholic problems involving intact marriages as having a crucial systems balancing dimension. I had not yet come across the concept of homeostasis applied to families. Finding further support in the literature, I realized alcoholism had to be seen in a family context.

Next it occurred to me that if the phenomena was true for alcoholic couples, something similar might be true for all sorts of other problem behaviors. I could no longer view problems as residing solely "in" the individual as I had been trained to do. Furthermore, as I looked at alcoholism and other problems in the community I applied this systemic view to primary and secondary prevention activities.

Not too many years later, while serving as a consultant to the community clinical psychology program at a major southern university, I heard an interesting story. It seems university psychologists accepted a 6-year-old outpatient for treatment relative to complaints that the child was "homicidal." Not many weeks into treatment, the clinic accepted another "homicidal" child. When a third "homicidal" child was subsequently referred, the psychologists undertook a broader look at the context of the referrals and discovered they all came from the same first grade class. The intervention focus shifted to the classroom, and referrals of "homicidal" children ceased. The clinic became a community clinical psychology services center with, needless to say, a systemic orientation.

This is all by way of encouraging you to look closely at your experiences with family and community inter-relationships and in a brief, or not so brief, reflexive moment, play with the systemic elements involved. The importance of our field's shift to include or add a systemic frame to our approach is a change in our way of thinking even more than emphasizing the very significant advances in family and couple therapy and the development of our new exciting field of family psychology.

These movements in family and couple therapy and in family psychology in particular are well documented in the Journal of Family Psychology, the professional publication of the Division of Family Psychology of the American Psychological Association. This journal comes as a benefit of your membership in the Division of Family Psychology. I urge you to join this Division, Division 43. In addition to reading the Division 43 Journal as a way to provide a basis for training in the area, for those of you who are unfamiliar with the field of family therapy, I suggest acquiring one of the new texts in family therapy. One I like, written by psychologists Irene and Herbert Goldenberg, is titled Family Therapy: An Overview, Second Edition, Brooks/Cole Publishing Company, Monterey, California, 1985. This concise text presents the historical background, some principles of family living, a balanced presentation of six theoretical models of family therapy, and the spring board of a more in-depth excursion aimed at understanding and learning a particular approach as exemplified in the writings of Satir, Whitaker, Bowen, Minuchin as well as more contemporary family psychologists, such as Bodin of Mental Research Institute (MRI) and Alexander, who is a systems-oriented behaviorist. Incidentally, at the California Graduate School of Family Psychology we have been privileged to have Bodin run a workshop, and this coming Saturday Jim Alexander will be handling our winter quarter workshop.

Of course, no matter how insightful your clinical observations and whatever your amount of reading, only "hands-on" work with good supervision will provide the sort of proficiency training required to become a practitioner of family psychology and family therapy. Previous speakers have discussed some of the Institute's approaches to learning such as MRI. I would like to briefly mention the major predoctoral and postdoctoral programs identified in a national survey undertaken several years ago by the Division of Family Psychology's Committee on Education and Training, of which I serve as Chair. This is by no means an inclusive list, but instead represents the programs we have clearly identified, together with some descriptors about each program. Although earning a doctorate is history for this audience, some of you may find it of value to contact programs in your area for special programs for professionals and for postdoctoral training.

We discovered about 10 programs that seemed to have, in effect, doctoral majors. Some of these are developing special programs for practitioners in the field, including postdoctoral internships. The first program, the California Graduate School of Family Psychology, San Rafael, has not only family psychology as the special clinical psychology emphasis, but has a newly developed professional program together with postdoctoral training in family psychology, under the direction of Dr. Martin Kirschenbaum. Dr. Kirschenbaum was the founding President, now President Emeritus, who developed the School's unique marital and family training program. Dr. Kirschenbaum is in the audience, I believe. CGS offers extensive post masters and post doctoral training in family psychology wherein the entire curriculum is planned within a systems framework.

The only other professional doctoral program with a thorough-going systemic approach throughout its curriculum is that at Spaulding in Louisville, Kentucky. This is a clinical psychology doctoral program, as are programs at De Paul, in Chicago; Michigan State, East Lansing; the University of Utah, Salt Lake; USIU, San Diego; and Indiana University of Pennsylvania, Indiana. Some counseling psychology programs also have a major in family psychology; for example, the University of North Texas, Denton, and Seton Hall University, in South Orange, New Jersey.

Besides these programs with a major family psychology emphasis, several schools were identified with minors and well-defined, integrated sequences in family and marital therapy. These are: Alameda and Fresno; the Illinois School of Professional Psychology, Chicago; Florida Institute of Technology, Melbourne (Florida); Rutgers Graduate School of Applied and Professional Psychology, Princeton; Forest Institute of Professional Psychology, Honolulu; Texas Tech University, Lubbock; and the University of Washington, Seattle. Perhaps some of you who are interested in further training in family psychology and family therapy will find it useful to begin your search for training experiences at one of these institutions close to you. And of course there exist numerous institutes over the country providing training in family therapy, with one of the most famous and best being, as I noted earlier, MRI in Palo Alto.

In concluding my remarks, I would again urge you to observe carefully with your clinical cases as you read in the beginning or advanced family psychology and family literature, then seek concentrated supervision and training in this area.

FELLOWSHIP TRAINING PROGRAM
IN FAMILY MENTAL HEALTH
1989 - 1990

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Presidio of San Francisco, California 94129-6700

1. HISTORY:

The Fellowship in Family Mental Health is a newly instituted, one year training program that took in its first trainee this year. The program is taught in the Department of Psychiatry as a multidisciplinary specialty. To augment the core program given at Letterman, the training program draws upon the numerous excellent family therapy programs in the Bay Area.

2. GOALS:

The Fellowship in Family Mental Health is open to any fully-trained, active duty psychiatrist, child psychiatrist, psychologist, social worker, or nurse clinician. During the course of the one year fellowship the trainee will master the basic skills necessary for effective delivery of good mental health to military families. The program heavily emphasizes training in family therapy and the development of a systemic understanding of mental health issues. The trainee will also develop skills that will enable him/her to effectively project himself/herself into the military community as an advocate of family mental health.

3. APPLICATIONS:

An applicant to the Fellowship in Family Mental Health can contact the Army Personnel Counselor at a local Army facility or contact:

COMMANDER
AMEDD PERSONNEL SUPPORT AGENCY
ATTN: SGPC-EDG
WASHINGTON, DC 20324

4. TIME REQUIREMENT:

The trainee should expect to devote at least 50 hours/week to the fellowship for a full year. This includes both academic and direct clinical care training.

5. STARTING DATES:

It is highly desirable that all trainees be available for training by 1 July. They can expect to complete their training by 30 June of the following year.

6. PROGRAM GOALS:

The core of the Family Fellowship is training in family therapy. Family therapy is a treatment modality founded on a theoretical base that considers all behavior within the larger context of the family. The goals of the program include:

a. The trainee should learn to think about families using concepts consistent with the theoretical orientation of their own professional backgrounds and learn of the concepts developing out of all the major theoretical orientations in the family therapy field.

b. The trainee should develop the skills needed to carry out competent family assessments.

c. The trainee should develop the skills needed to carry out both short-term and long-term family therapy.

d. The trainee should develop the necessary skills to assess and support the needs of families in the military community.

7. PROGRAM DESCRIPTION:

The Fellowship is taught in the Family Service of the Department of Psychiatry. The service is multidisciplinary. In addition to the Family Mental Health Fellow, trainees from psychiatry, child psychiatry, the UCSF School of Clinical Nurse Practitioners and psychology interns all receive family therapy training. The program teaching is carried out through supervised clinical experiences, clinical seminars, and didactic conferences. The Family Service has the use of one-way mirrors in both the outpatient clinic and inpatient service. Trainees receive live supervision through the use of a "bug in the ear."

8. BASIC CURRICULUM:
   a. The family life cycle
   b. Basic concepts of normal family structure and function
   c. Patterns of family communication
   d. Significant issues relative to the family of origin
   e. Basic family therapy concepts and their application
   f. Primary theoretical orientations in family therapy
   g. Transcultural and ethnic aspects of family therapy
   h. Technical expertises in family therapy
   i. Community family issues with emphases upon the military family
   j. Family therapy with special family problems
      (1) Separation, divorce and step-families
      (2) Alcohol and other drug abuse
      (3) Child abuse and domestic violence
      (4) Families with members suffering major psychiatric disorders such as schizophrenia and affective disorders
      (5) Families in catastrophic situations
   k. Couples and marriage therapy
   l. Families with young children
   m. Family group therapy
   n. Family research
   o. Family therapy supervision and training

PROPOSED ARMY FELLOWSHIP IN FAMILY THERAPY

Within the last 30 years, there has evolved a powerful new modality for the treatment of emotional disorders, family therapy. Though based on traditional psychoanalytical principles, it is also based on systems theory and the feedback loops of cybernetic principles. The veritable explosion of literature and those interested in the field is testimony to family therapy's power and effectiveness. Specialists in the field have come from psychiatry, psychology, social work, and the ministry.

Much of the power and effectiveness of family therapy is related to its theoretical base and perspective. To be an effective therapist one must shift from regarding the individual as the problem, or having the problem to seeing the individual in the context of his family system. All behavior within the family, including the manifestations of symptoms in an individual are, at the same time both the cause and the result of the interpersonal patterns. The family system rather than the symptomatic person becomes the therapeutic unit for achieving change. As such, the focus shifts from events of the past to ongoing "here and now" patterns. The goals are then to change the interactive patterns, not just to interpret or explain them. It is this theoretical base that in turn generates treatment and techniques unique to the field.

This different theoretical base in turn leads to radically different behavior on the part of the therapist. The therapist must shift from seeing the identified patient or symptom carrier as the victim to be supported, to seeing the patient as an active participant in the process. The therapist must give up being merely a neutral observer to sometimes becoming active in the family system, being careful to avoid entangling alliances. The therapist is not engaged in "shuttle diplomacy" going from one spouse to the other nor does he act as a "switchboard operator" telling family members when to speak. Family therapists must become involved without losing their independence, supporting and nurturing at one point and challenging and demanding at another. Above all, the therapist must not lose sight of the family's overall interactive patterns.

These new theories and roles are simultaneously the cause and the "spin off" of new training systems internationally. Pioneers in this country such as Nathan Ackerman in New York City, Murray Bowen in Washington D.C., Paul Watzlawick and Virginia Satir in Palo Alto, Jay Haley in Washington, D.C., and Salvador Minuchin in Philadelphia have set up training programs at various institutions around the country for the specific purpose of teaching family therapy theory and practice. This has led to the development of exciting new training modalities to supplement the traditional mixture of didactic and remote clinical one-to-one supervision. These include development of live supervisory techniques using a one-way mirror and either a "bug in the ear" or telephonic connection. The power of immediate feedback has been an exciting development in supervision. Additionally the use of the one-way mirror has led to the development of treatment teams for really difficult cases; with the part of the team behind the mirror taking an active albeit indirect part in the therapy. Extensive videotaping of sessions provides the opportunity to better understand the family system as well as to help the novice therapist review his own process and assess the effectiveness of various interventions. Additionally, the pioneers and masters in the field have recorded some of their work; reviewing their tapes has become a powerful training tool in the training of family therapists.

Unfortunately, the field is so new that there are few institutions with all the necessary facilities. The San Francisco Bay area is fortunate to have one of the few specialty schools, the California Graduate School of Marital and Family Therapy, that offers a Ph.D. in the field. Additionally, there are the Family Therapy Institute of San Francisco and the resources of the Mental Research Institute in nearby Palo Alto, California. The U.S. Army has not yet had the opportunity to develop a program for training professional family therapists. Though some general psychiatry residency programs such as those at LAMC, WRAMC, and DDEAMC provide brief exposure to the principles as part of their curriculum, it is little more than an overview. Both the general and child psychiatry programs appropriately retain as their main emphasis the assessment and treatment of the individual rather than the family system of which he is and integral part. Neither program provides the extensive theory and focused exposure to clinical cases that makes treating difficult families possible and productive.

The absence of family therapists within the military system has not deterred people from seeking such therapy. This is evident from reviewing some of the recent LAMC catchment area CHAMPUS statistics. Although there are no statistics that directly measure the number of couple or family therapy cases seen by civilian therapists and covered under CHAMPUS there are some figures that can give a rough idea of the magnitude of the problem. For the fiscal year 1984, there were 1060 outpatient psychiatric beneficiaries who made a total of 13,819 visits to mental health professionals for a cost to the government of $775,562 or and average cost of $56.12 per visit. Of the 1060 beneficiaries, 658 were dependents of active duty sponsors, 299 were dependents of retired or deceased sponsors. The remaining 103 were retired. Even if only 1/3 of these patients were family therapy cases, or amenable to treatment by family therapy, the figures would be impressive:

beneficiaries	353
visits	4606 (13.53 visits/beneficiary)
Total Government Cost	$258,521 for LAMC catchment area alone

On a national level the figures are even more alarming. The 1984 fiscal year totals for all regions indicate 111,907 patients (all categories) made 1,092,865 visits to mental health professionals, costing the government $55,117,726. Psychiatric costs have been a steadily rising percentage of the CHAMPUS expenditures and now represent almost 19% of the total budget. In these days of limited budgets and severe fiscal restraints, these figures represent even more pressing reasons to expand the services offered at military hospitals. Developing a comprehensive program of training qualified family therapists might eventually result in the recapture of significant CHAMPUS monies.

General

The proposed Fellowship Program in Family Therapy at Letterman Army Medical Center (LAMC) would be an official program sponsored by the Office of The Surgeon General. The Family Therapy Fellowship would join already established programs in adult and child psychiatry. There would be collaboration with the California Graduate School of Marital and Family Therapy (CGSMFT) as well as with the Family Therapy Institute of San Francisco (FTISF). Satisfactory completion of the 2 year program should result in the awarding of an advanced postdoctorate certificate by CGSMFT.

Program Director

The director of the LAMC Fellowship in Family Therapy would be Frederick R. Stoddard, M.D., COL, MC, U.S. Army. COL Stoddard has expanded the Family Therapy Program at LAMC into a full 3 year curriculum. Additionally, he has been a supervisor at the CGSMFT.

Program Faculty

In addition to the director of the fellowship there will be the support of the entire Department of Psychiatry, the Psychology Service, and the Child Psychiatry Service. Outside supervisors presently includes Alan Carr, Ph.D., and Benina Berger-Gould, LCSW. Additionally, the faculty and resources of the CGSMFT and the FTISF are available for both didactic courses as well as clinical consultation The Bay Area has numerous therapists in private practice who lecture at LAMC.

Eligibility

Any fully-trained, active duty psychiatrist, child psychiatrist, clinical psychologist, or qualified licensed clinical social worker will be eligible to apply for the 2 year program. There will be facilities for two fellows in each year.

Resources

LAMC. The inpatient psychiatry service at LAMC is a busy 40-50 inpatient unit with a wide spectrum of cases from 14-year-old adolescents to geriatric patients; with a mixture of active duty, retired, and their dependents. At least one-half of the cases hospitalized on the inpatient service are from local areas and therefore families are available, although many are severely disturbed.

There is also a busy outpatient service that includes active duty Army, Navy, Marine Corps, and some Air Force. All are stationed within the Bay Area, consequently most have families immediately available.

Impact on Existing Programs

The impact on the general and child psychiatry programs at LAMC should be positive. The embryonic program already in existence has worked effectively with the inpatient service and provided support and direction with some difficult families. There is a surplus of inpatient families, more than can be seen with the limited resources. The family therapy service and the child psychiatry program have cooperated in treating adolescents admitted to the inpatient service. Additionally, there is a surplus of outpatient cases as manifest by the CHAMPUS statistics. Both services realize that the other offers some unique expertise to the treatment of difficult cases.

Proposed Two Year Curriculum General Concepts

Goals. The goals of the Family Therapy Fellowship are to train certified psychiatrists and psychologists in the complex field of family therapy. To improve the knowledge and clinical skills so that they can comfortably and successfully work with families, both in a diagnostic or consultative sense and in a therapeutic sense. Diagnostically, the goals are to see the individual in the context of his system, to gain an understanding of how he functions in that system, and to assist other mental health professionals in devising a treatment plan that is relevant to the system. In this way family therapy is an important adjunct to other therapies. Therapeutically, they are to train

therapists skillful and powerful enough to help those families interested in changing their destructive patterns of relating to each other. To be skilled, the therapist must be familiar with the various schools of family therapy and know how and when to use structural, strategic, or psychoanalytic techniques.

Method. To develop a comprehensive program that would offer a balance of didactic material, seminars, and clinical material.

Proposed First Year Curriculum.

A. Weekly didactic seminars on normal family process: Each being a 2-hour seminar with 3 or 4 readings per week to cover the following topics:

(1) Systems theory
(2) Communication patterns
(3) Healthy families
(4) Mid-range families
(5) Dysfunctional families
(6) Family Life Cycle with focus on normal transitions and stages:
    (a) unattached young adult
    (b) mate selection, the new couple
    (c) sex roles and family dynamics
    (d) parenthood stresses and coping strategies
    (e) adolescent children
    (f) launching children
    (g) retirement with emphasis on the military family
    (h) death and its impact on the family system
(7) The military family and its unique features
(8) The family in catastrophic situations:
    (a) natural disasters
    (b) chronic illness
    (c) war
    (d) POWs, MIAs
(9) Ethnic studies, normal variations
(10) Schools of family therapy and their practice:
    (a) Structural family therapy readings and tapes
    (b) Strategic family therapy readings and tapes
    (c) Psychoanalytic family therapy readings and tapes
    (d) Communication approach to family therapy readings and tapes
    (e) Crisis family therapy
    (f) Brief family therapy

B. Didactic classes to be given at the California Graduate School of Marital and Family Therapy:

(1) Beginning Family Therapy class: a 20-hour class of didactics and clinical material (tuition to be waived).
(2) Intermediate Family Therapy Class: a 20-hour class of didactics and clinical material (tuition to be waived).

C. Clinical case load:

(1) Two ongoing cases; one with live supervision and the other with video tape supervision.

(2) "Intensive" Class to be taken either at LAMC or CGS; 5 hours per week for 10 months. This would be an in-depth study of brief focused family therapy with the opportunity to do therapy as well as to be part of the treatment team behind the one-way mirror and to observe the supervision of other therapists.

(3) Couples group or family specialty group (e.g., abusive parents' group, single parents' group, abused women's group, or victim's of incest or sexual abuse group). This would be done either with staff co-therapy supervision or with one-way mirror supervision (4 hours per week).

(4) Family therapy consultant to Inpatient Psychiatric treatment teams (2 hours per week).

(5) Co-therapist for evaluation of families of inpatients (3 hours per week).

(6) Research project.

Proposed Second Year Curriculum

A. Weekly seminar on various specialty topics concerning the family and the military family. This would be a 2-hour seminar with selected readings covering topics such as:

(1) Impact of geographic separations and frequent moves on children divorce
(2) Divorce mediation
(3) Single parenting
(4) Remarriage and its effect on families
(5) Children and adolescents in remarried families
(6) Violence in families with emphasis on the military family
(7) Child abuse
(8) Incest and sexual abuse with emphasis and the military family
(9) Schizophrenia selected readings (3 weeks)
(10) Emotionally disturbed children; the family scapegoat
(11) Alcohol and its impact on the family system
(12) Adult children of alcoholics
(13) Drug addiction and abuse
(14) Cross-cultural marriages

B. Clinical case load:

(1) Two long term cases with either live supervision or video supervision.

(2) Supervise psychiatric resident co-therapy teams in conjunction with a staff supervisor (2 hours per week).

(3) "Intensive" either at LAMC or CGS as a supervisor. If this part of the program is taken at CGS there will be no tuition requirement (5 hours per week).

(4) Consult to other inpatient and outpatient services that deal with patients having chronic or debilitating illnesses (e.g., cardiology, nephrology, hematology and oncology, and neurology).

(5) Multiple family groups to be done with staff supervision (5 hours per week).

(6) Work with local agency in divorce mediation (3 hours per week).

(7) Provide family support to an outlying installation (e.g., Hamilton Air Force Base or Petaluma Coast Guard Station).

C. Research Project in addition to their own project; there may be the opportunity to work one afternoon per week with the Family Therapy institute of San Francisco on one of their ongoing research projects.

CONCLUSIONS

Over the last several decades military families have become an increasingly important part of military life. The most productive soldiers are those whose families are supportive and happy. It is those families that have not developed effective coping mechanisms that are responsible for many of the problems that the military struggles with such as absenteeism, poor job performance and low morale. More often than not these symptoms are associated with marital problems, childhood emotional problems, drug and alcohol abuse, domestic violence both spousal and child abuse, not to mention divorce, single parent families and remarried families. This program represents an opportunity for the U.S. Army to take the lead in training competent therapists to deal with complex family problems.

THEY WOULD HAVE ISSUED YOU ONE: DIFFERENTIAL IMPACT OF VARIOUS RELATIONSHIP DIMENSIONS ON MARITAL SATISFACTION IN SMs AND THEIR SPOUSES

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An empirical study was undertaken to attempt to discriminate among variables which contribute significantly to marital distress among our active duty service members and their active duty or dependent spouses. The instrument selected was Snyder's (1981) Marital Satisfaction Inventory (MSI) which research continues to suggest is one of the most valid and reliable self-report marital inventories available. The instrument, which uses the same "actuarial" approach as does the Minnesota Multiphasic Personality Inventory (MMPI), consists of 11 scales which tap the impact of global distress, affective communication, problem-solving communication, time together, finances, sexual dissatisfaction, sex role orientation, parental history of marital distress, dissatisfaction with parenthood, and child-rearing conflicts on current marital disharmony. Although it is acknowledged that the military family has issues of its own with which it must deal in maintaining marital contentment, it is also felt that little enough is known about the "non-military" differences in sources of dissatisfaction. Thus the issue of sex differences is addressed; in addition, the meanings of statistical relationships among various marital stressors are examined, implications for marital therapy are explored and proposed avenues of further research are offered.

The psychological treatment of couples in conflict is an increasing challenge to the mental health community in general, and to military mental health professionals in particular. Historically, DoD has shown its official concern through the Family Advocacy Program (FAP) which is mandated to intervene in cases of spouse (and child) abuse with the aim of facilitating family treatment. However, a significant portion of the married (though not physically abusive) population experiences high levels of conflict within the relationship. In attempting to clarify the individual impact of various marital dimensions on marital disharmony, as well as to improve diagnostic and treatment techniques in marital therapy, many marital assessment inventories have been developed (Snyder, 1979). A recent addition to the literature is Snyder's (1981) Marital Satisfaction Inventory (MSI). This instrument, which uses the same "factuarial" approach as does the MMPI, consists of 11 scales which tap the impact of various sources of marital conflict. They are:

1. Conventionalization (CNV): assesses the tendency to report the marriage in socially desirable terms (fake good).

2. Global distress (GDS): assesses overall marital dissatisfaction.

3. Affective communication (AFC): assesses the amount of affection and understanding provided by a spouse.

4. Problem-solving communication (PSC): assesses general ineffectiveness of resolving differences.

5. Time together (TTO): assesses feelings about the quality and quantity of leisure time spent together.

6. Disagreement about finances (FIN): assesses disagreement about the handling of family finances.

7. Sexual dissatisfaction (SEX): assesses dissatisfaction with sexual activity.

8. Role orientation (ROR): assesses marital and parental sex roles.

9. Family history of distress (FAM): assesses quality of the marriage of patients' parents and extended family.

10. Dissatisfaction with children (DSC): assesses overall satisfaction with the parent-child relationship.

11. Conflict over child rearing (CCR): assesses perception of conflict over child rearing practices.

While there are certainly "military marriage-specific" issues with which military families must deal, they additionally must confront those very "non-military" issues which other couples face, and which have been targeted for assessment by such instruments as the MSI. It would seem that little enough is known about military marriages to be able to make accurate generalizations about them which might be useful in the treatment of couples experiencing conflict. Therefore, a project was begun in our clinic to study the level of marital dissatisfaction in our marital therapy patients, using the MSI, in an attempt to discriminate among variables which most contribute to marital distress in our military population.

METHOD

Subjects were a total of 49 active duty service members (SMs), retirees and their military or dependent spouses (the uneven sample size is explained by the fact that subjects whose marital problems were seen as the major contributors to clinical symptoms but whose spouses were unwilling to take part in treatment were still seen as appropriate sources of data). All subjects were administered the MSI immediately after completing intake paperwork. The test is comprised of 280 true-false items (239 if the subject has no children at home). Subjects did not begin treatment until the therapist had test results available (usually within 5 minutes, thanks to computer scoring) and feedback could be given.

RESULTS

Subjects included 23 males and 26 females. Figures 1 through 3 illustrate the frequency distributions of patients' ages, eligibility status and length of current marriage, respectively. As seen in Figure 1, age of subjects ranges from 21 to 48 years, with no preponderance of those seeking services being any particular age. The distribution of eligibility (Figure 2) indicates that a majority of these patients are enlisted families, but the officer/enlisted ratio here appears no smaller than that of the Army as a whole. Figure 3 depicts a distribution of current marriage lengths, ranging from about 4 months

to 28 years. LCM values increase incrementally by about one year or less until after 13 years, after which they stagger.

Figure 4 illustrates patient mean ages, LCMs, and MSI subscale scores, by sex. One of the most interesting, and perhaps surprising findings of this entire analysis is that when t-tests were run comparing males and females on all 11 MSI subscales, none were found to be significantly different.

In order to determine which set of marital distress variables were the best predictors of global marital dissatisfaction, a two phase regression analysis on variable GDS was performed (understanding that such an analysis with an N of this size should be considered with appropriate caution). First, a stepwise multiple regression analysis was performed, with an Alpha-to-enter criterion of .150. The following four variables entered the equation in the following order:

AFC	R=.673	R-Square = .452
CCR	R=.758	R-Square = .575
ROR	R=.788	R-Square = .620
LCM	R=.802	R-Square = .643

In the second phase, these four variables were used as predictors in a forced multiple regression equation (since 7 subjects had no children and thus had missing data for variable CCR, they had to be dropped from this phase of the analysis). The resulting overall F (4, 37), which tested the significance of the regression line, equaled 16.673, with p = .000. Variables AFC, ROR and CCR all had regression coefficients (.414, .273 and .360, respectively) which achieved statistical significance (p = .001, .047 and .001 respectively) (see Table 1).

DISCUSSION

The purpose of this study was to attempt to elucidate the major influences on marital disharmony in our military population. Looked at another way, we can assume that all marriages, including military ones, will be challenged by each spouse's individual needs, wants, and feelings with respect to communication, finances, sexual behavior, child-rearing practices, and so on. However, many patients verbally prioritize or weight the impact of each of these sources of conflict, within the context of therapy. Usually, they report that although all of these areas are problematic in their marriages, only certain ones, they feel, seem to be of the most negative impact, and are the ones which most threaten an end to the marriage.

Our study indicates that males and females in this population do not appear to differ in the level of dissatisfaction they feel in their marriage as a function of various conflictual variables. While one might expect, for example, that males would be more likely to be unhappy about their sexual relationship, or that females would show greater dissatisfaction with the level of affective communication, the fact that no significant statistical differences were found would suggest that both members of our couples are experiencing distress and dissatisfaction, probably as a result of their perceived inability to get their partner to come over to, or even to see their own point of view. Thus men may be dissatisfied over their wives' lower "needs" for sexual activity; women may be equally dissatisfied over their husbands' lack of sensitivity, disinterest in romance, or whatever. Similarly,

many patients of both sexes anecdotally report their spouses' seeming disinterest in being emotionally expressive; while one spouse wonders why the other seems so disinterested, the other responds that he/she has tried to be communicative and has been rejected. Thus, wives and husbands in distress are woefully unskilled at "reading off the same sheet of music."

The multiple regression analysis performed on this (admittedly small) set of data seems to assert that global marital unhappiness in this population can best be predicted from high levels of distress over affective communication and differences in child-rearing practices, as well as variations in sex-role orientation. These three factors, in conjunction with length of current marriage, account for over 60% of the marital distress "variance pie"; other factors (finances, sex, time together, marital problems in family of origin, parenthood) would appear to contribute only non-significantly to our overall ability to predict global distress. Perhaps it is no small coincidence that, when asked (anecdotally) what they see as their biggest marital problem, the overwhelming majority of distressed couples immediately reply, "Communication!" Indeed, we may note that AFC itself accounted for <u>over 45%</u> of variance in GDS. Our analysis would suggest, then, that poor communication of affection and feelings, combined with differences over "who does what" at home and how and when to punish kids, would seem to be necessary and in some cases sufficient conditions for significant marital distress, leading to divorce. Perhaps these elements are the foundation on which other sources of conflict (sexual, financial, etc.) build.

Many marital therapists often find themselves asking chicken-and-egg like questions (e.g., no sex so no communication, or no communication so no sex). Although questions like that one will always have to be answered on a case-by-case basis, our data suggest that affective communication, differences in child-rearing and conflict over role-orientation may well be at the core of marital dysfunction, with many of the other problems inherent in marriage more or less "piggybacked on." This only serves to emphasize the continuing need for communication training and "marital reality training," perhaps along the lines of such marriage preparation organizations as Engaged Encounter and Marriage Encounter. If therapists could go into marital therapy sessions, keeping a "third eye" open for fundamental conflicts in communication, a more efficient diagnostic and therapeutic effort could be made.

In considering future research, we have but to ask ourselves about that 40-odd percent of unaccounted for variance in GDS. Perhaps more data would point up the role of some of these other conflictual variables which the MSI addresses; then again, perhaps there are other marital distress factors as yet unexplored. The variable "time together," which one would certainly suspect to significantly impact on military families, still seems to pale before the others already discussed. Is this an irrefutable finding, or might there be some complex interaction among these variables, yet to be described, which will carve us a much larger slice of the explainable variance pie?

REFERENCES

Snyder, D.K. (1979). Multidimensional assessment of marital satisfaction. Journal of Marriage and the Family, 41, 813-823.

Snyder, D.K. (1981). Manual for Marital Satisfaction Inventory, Los Angeles: Western Psychological Services.

FREQUENCY DISTRIBUTION: PATIENT AGE

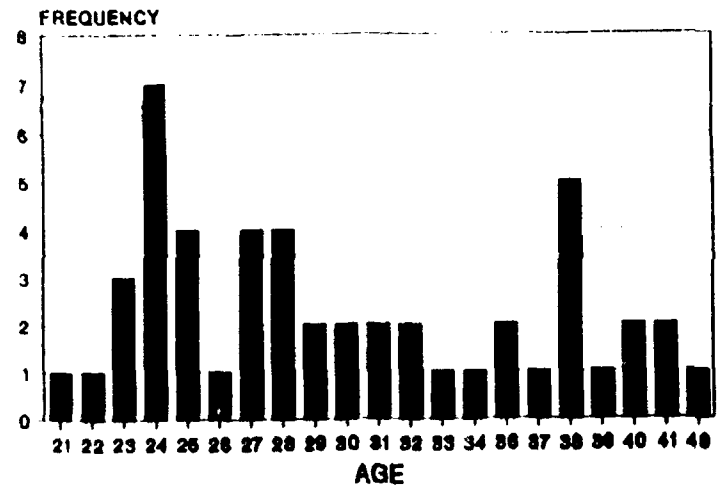

Figure 1

FREQUENCY DISTRIBUTION BY DUTY STATUS

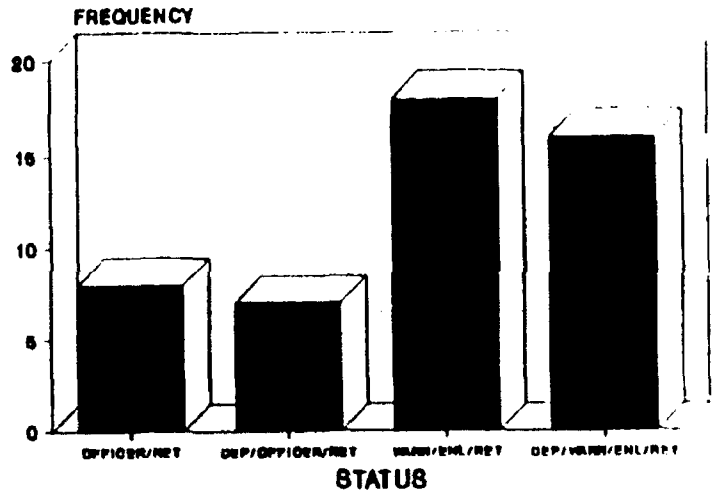

Figure 2

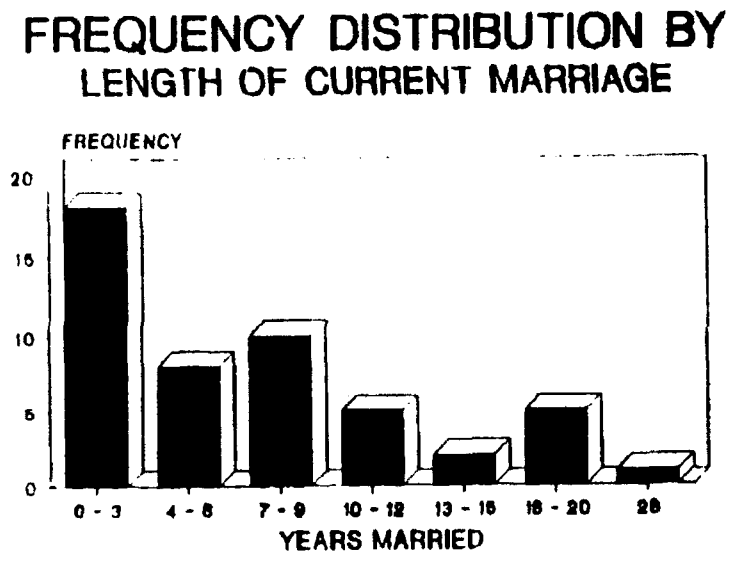

Figure 3

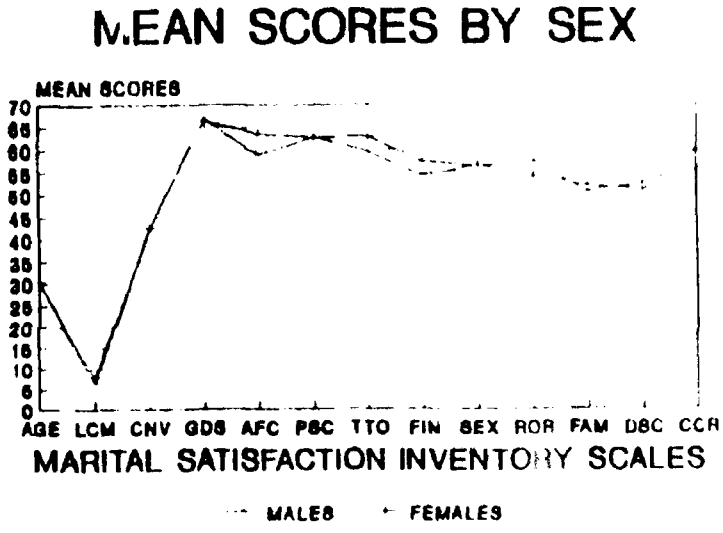

Figure 4

REGRESSION ANALYSIS PREDICTING GDS FROM LCM, AFC, ROR & CCR

N = 42 Multiple R = .802 Squared Multiple R = .643
Adjusted Squared Multiple R = .605 Std Error of Est. = 6.114

VARIABLE	COEFFICIENT	T	p (2-tailed)
CONSTANT	6.944	0.775	ns
LCM	-0.287	-1.541	ns
AFC	0.414	3.678	.001
ROR	0.273	2.057	.047
CCR	0.360	3.532	.001

REGRESSION ANALYSIS OF VARIANCE

SOURCE	SS	DF	MS	F	p
REGRESSION	2492.686	4	623.172	16.673	.000
RESIDUAL	1382.933	37			

Table 1

WORKSHOP--
PSYCHOLOGICAL SOFTWARE INTO THE 1990s:
APPLICATIONS FOR MILITARY MEDICAL FACILITIES

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This workshop highlights the many uses the increasingly omnipresent personal computer can play in the military mental health clinic. Fort Lewis CMHS, a consistent innovator in the field of computer automation, has added the capability to program the Sentry 3000 Optical Scanner to read and convert information to data usable by a variety of less expensive scoring programs, allowing for the very inexpensive addition of optical scanning capability to most Army mental health clinics. The workshop discusses optical scanning and other computer applications in psychology.

The personal computer has caused a revolution in how psychological testing is conducted. It has also resulted in a proliferation of the amount of information tests yield. It has been less than 2 years since Fort Lewis CMHS stopped scoring its Minnesota Multiphasic Personality Inventories (MMPIs) via hand scoring templates--a laborious and mind numbing task which yielded 13 scales of information after an investment of 20 minutes scoring time.

The advent of personal computers and software scoring packages such as those from Applied Innovations, allowed psychologists to key in the MMPI, by typing "T" or "F" for each of the 566 items. This results, for the MMPI, with a print out of 100 or more clinical scales, a list of critical items, and a narrative report--with an investment of only half the 20 minutes required for hand scoring. This change has been readily adopted by Army Clinical Psychology. Anecdotally at least, it appears that the majority of military psychologists in 1989 have access to at least one personal computer, and scoring software for at least a few basic psychometric tests.

Another revolution in computer automation and scoring is now on the horizon, cutting the time involved in test scoring and interpretation still further, and raising accuracy. This involves the advent of relatively low cost optical scanning devices, which link to the personal computer through its serial interface port. These devices have been marketed through National Computer Services (NCS) for some time, often sold as part of a computerized package including a "black box" linked to NCS's software. The NCS system has many advantages, in terms of time, accuracy, and information yielded. However, NCS charges a substantial fee each time its scoring software is used. The cost of the optical scoring equipment itself is lower than the cost of a personal computer, and can usually be justified. However, the cost per use of the NCS system, with rates of $5 to $12 per single test scored, would quickly put a strain on the limited budgets available to most clinics, and has thus not been practical. The two Army medical centers which have installed this system rarely use it--due to the cost factor.

This problem is solvable, however, by writing conversion programs which will adapt the data files produced by the scanner to a format readable by other commercial software products. Advanced Scan Tools, available from NCS, will configure the Sentry scanners to read any NCS form, and output a simple data

file with the results. Conversion utilities, such as the example in Appendix A, then error check the data for marks either not answered or not read by the scanner, and then translate the format to be identical to a data file produced by the commercial program. It is thus possible to adapt virtually any scoring program which saves data files to disk to use the optical scanning system, at no cost beyond the initial outlay of materials and software.

Fort Lewis CMHS has been using two commercial software programs purchased for the MMPI: Joseph A. Waldron's "Towne Square" package, and Bruce Duthie and Ken R. Vincent's "MMPI-83" package from Pacific Psychological. The first, the "Towne Square" scoring system, produces a compact report with 110 scales, and only a small amount of interpretation. The great advantage of the "Towne Square" software package for the present purpose was that it comes as written in uncompiled Microsoft Basic, and thus it is possible to simply add the scanner input routine as an optio to its menu. Towne Square uses the MMPI "benchmark" norms, and thus may have been affected by the recent lawsuit against Applied Innovations, another marketer of MMPI scoring software.

The lawsuit against Applied Innovations was brought by National Computer Systems, asserting that the Applied Innovations scoring system infringed upon its exclusive license to market computer scoring of the MMPI by the University of Minnesota. The outcome of this suit allowed the continued use of programs legally purchased from the vendor, but ordered Applied Innovations to cease future sales of the product. All that has been affected is the original three validity and 10 clinical scales of the MMPI. Thus the continued availability of any software package scoring the benchmark norms of the MMPI is not certain, but previously purchased copies can still be used and adapted to optical scanning. Applied Innovations software has been so adapted.

Even if a new system is being established, and software is to be purchased new, The Pacific Psychological software continues to be available. MMPI-83 has licensed and now uses the Colligan 1983 Norms, which are not copyrighted by the University of Minnesota, and thus have not been affected by the lawsuit. These software packages score 120 scales and indices, and include new Personality Disorder scales. Both of these packages cost approximately $200 with no further cost per use, and are readily adaptable to the Sentry scanner.

REFERENCES

Sentry 3000; $2,990; National Computer Systems; PO Box 1416; Minneapolis, MN 55440. 1-800-328-6759.

ScanTools. National Computer Systems; PO Box 1416; Minneapolis, MN 55440. 1-800-328-6759.

Towne Square MMPI ($195). Towne Square Psychological Services; 14630 Eureka Road, Columbiana, OH 44408; (218) 482-9353.

MMPI-83 Version 2.1. $195. Pacific Psychological, 1933 Jadwin Ave; Suite 130 Richland, WA 99352; 1-800-523-4915.

Example Conversion Utility to adapt the California Psychological Inventory to Optical Scanning: (Conversion programs do not have to be so fancy: This one uses color and graphics, does error checking, and is easy to use.)

```
1000  ' CPI 08/26/88 MERGE SCAN FILES TO ONE
1010  ON ERROR GOTO 0
1020  DEFINT I-N:DEFSTR A-D
1030  DIM L(462)
4320  POKE 1047,32
4330  DEF SEG
4340  ' set for full screen
4341  POKE 41,80
4342  POKE 91,1
4343  POKE 92,24
4344  FILNAM$ = '  '
4350  KEY OFF
4360  AE=CHR$(17)+CHR$(196)+CHR$(217):' ENTER symbol
4370  '
4380  ' header with a box around it
4390  AD1(1)=CHR$(201)+STRING$(77,205)+CHR$(187)
4400  AD1(2)=CHR$(186)+STRING$(77, 32)+CHR$(186)
4410  AD1(3) = CHR$(186) + STRING$(21,32) +  '      CPI MERGE PROGRAM 4420
AD1(4) = AD1(2)
4430  AD1(5) = CHR$(200) +    STRINGS(77,205) + CHR$(188)
4440  AD1(6) =  CHR$(32)
4450  AD2 = STRINGS(26,32):'  offset for menus
4460  '
4960  NCOLOR1=15:'         Foreground color
4970  NCOLOR2=1:'          Background color
4980  COLOR NCOLOR1,NCOLOR2,NCOLOR2:CLS
4990  COLOR 0,2
5000  LOCATE 2,1
5010  FOR K1 = I TO 5
5020  PRINT   AD1(K1)
5030  NEXT
5040  COLOR  NCOLOR1,NCOLOR2,NCOLOR2
6250  '
6370  ' Scanner Input
6380  LOCATE 11,1
8390  PRINT 'One moment please, reading input file.'
6400  A$ = 'C:\TOOLS\DATA\CPI.DAT'
6420  OPEN 'R',#2,A$,529
6430  FIELD #2, 40 AS S.CONTROL$, 15 AS S.NAME$, 2 AS S.AGE$, 1 AS S.SEX$,
                9 AS S.SSN$, 250 AS S.DATA1$, 212 AS S.DATA2$
6440   GET #2
6460     IF EOF(2) THEN GOTO 6600  'No data in file
C480     GOSUB   6700              'convert page of data
6490     GOSUB   7500              'get file name
6495     GOSUB   7300              'check for existance of file
6500     ON ERROR  GOTO  0
6502     OPEN   "O",#1,BA$
```

```
6510      FOR K1 = 1  TO  5
6520        PRINT #1,CHR$(34);C1(K1);CHR$(34)   ' Print Demographics
6530      NEXT
6540      FOR K1 = I TO 462
6550      PRINT #1,L(K1)                        'Print scores
6580      NEXT
6581      CLOSE #1
6582   CLS
6583   COLOR 0,2
6584   LOCATE 2,1
6585   FOR K1 = I TO 5
6586   PRINT   AD1(K1)
6587   NEXT
6588   COLOR NCOLOR1,NCOLOR2,NCOLOR2
6590   LOCATE 10,1
6591   PRINT 'CPI data file complete.'
6599   SYSTEM
6600   ' No data in  file
6610   PRINT 'No data in this file: ';A$;'.-DAT'
6620   INPUT 'Press any key to continue.',FILNAM$
6630   RETURN
6699   '
6700   ' Convert First Page of Scanned Data
6710   CI(2) = DATE$
6720   C1(1) = S.NAME$
6730   C1(3) = S.AGE$
6740   C1(4) = S.SEX$
6750   CI(5) = S.SSN$
6760   FOR LX = 1  TO  250
6770   L(LX) a VAL(MIDS(S.DATA1$,LX,I))
6780   NEXT
6790   FOR LX = 1  TO  212
6800   L(LX+250) - VAL(MID$(S.DATA2$,LX,I))
8810   NEXT
6812   RETURN
6840   ' Verify & Convert Data
6850   FOR LX a 1  TO  462
6860   IF L(LX) ( 1 THEN GOSUB 7000          ' Verify data
6862   IF L(LX) > 2 THEN GOSUB 7000         ' Verify data
6870   NEXT
6950   RETURN
7000   ' Ask to verify scanned data blank
7010   PRINT "Answer * ';LX;- Blank.-
7020   PRINT "Input 1=True, 2=False, or ';AE;' =Don't Know.'
7030   A$ = ' '
7040   A$ = INKEY$
7050   IF A$ = ' ' THEN GOTO 7040
7080   IF ASC(A$) = 13 THEN L(LX) = 0: RETURN
7070   KA = ASC(A$) - 48
7080   IF KA <  1 OR KA > 2 THEN GOTO 7010
7090   L(LX) = KA: RETURN
7099   '
7300   ON ERROR  GOTO 7400
7310   OPEN 'I',#1, BA$
7320   ON ERROR GOTO 0
```

```
7322  CLOSE #1
7325  PRINT BA$; ' File already exists.'
7330  PRINT 'Enter another name for this file.'
7340  INPUT 'Must be one to eight characters long.',FILNAM$
7342  IF FILNAM$='- THEN GOTO 7330
7350  LL = INSTR(FILNAM$,' ')
7360  NN = INSTR(FILNAM$,'.')
7370  IF NN <> 0 THEN GOTO 7330
7380  IF LL <> 0 THEN GOTO 7330
7385  BA$ = FILNAM$
7390  GOTO 7300
7400  ' ERROR TRAP ROUTINE
7410  IF ERR = 53 THEN RESUME 6500
7420  IF ERR = 71 THEN GOTO 7450
7430  PRINT ERR;' Unrecoverable Error.  Output not written.'
7435  INPUT 'Press any key to return to system.',FILNAM$
7440  SYSTEM
7450  PRINT 'Disk Drive not ready.  Insert data disk.'
7460  INPUT 'Press any key to continue.', FILNAM$
7470  RESUME 7300
7500  NNN = 1
7510  CCC = MID$(CI(1),NNN,8)
7520  NN = INSTR(CCC,' ')
7530  IF NN = 0  THEN NN=8:GOTO 7570  'GOOD CHARACTERS
7540  IF NN = 1  THEN  GOTO  7620     'NONE
7550  NN = NN-1
7560  CCC = MID$(CI(1),NNN,NN)        'SHORTENED
7570  FOR X = 1 TO NN
7580  IF   MID$(CCC,X,1)     <   'A'  OR   MID$(CCC,X,I)  >  ' Z'
THEN  GOTO  7880             NOT   ALPHABETIC
7590  NEXT
7600  BA$ =  CCC
7610  RETURN
7620  IF CCC          OR CCC  THEN GOTO 7330    GET VALID NAME
7630  NNN = NNN + 1
7640  IF MID$(CI(1),NNN,1)    'A' OR MIDS(CI(1),NNN,1)     'Z'
      THEN GOTO 7860                    NOT ALPHABETIC
7650  GOTO  7610                        ALPHABETIC
7660  IF NNN > 14 THEN GOTO 7330        GO GET VALID NAME
7670  GOTO  7630
7680  IF X   1 THEN GOTO 7630          FIRST CHAR NOT LETTER
7690  X = X - 1
7700  CCC = MID$(CI(1),NNN,X)
7710  GOTO 7600                         VALID NAME
7800  ' END OF PROGRAM
```

THE PRACTICE OF PSYCHOLOGY WITHIN THE EXCEPTIONAL FAMILY MEMBER PROGRAM, EUROPE

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Despite the existence of the Exceptional Family Member Program (EFMP) within the European theater since 1982, mission priorities were not clearly established until August 1989. The scope of practice for psychologists is oriented towards providing services school aged children in special education as well as for children aged birth to 4 with developmental disabilities.

The application of clinical and pediatric psychology within the program requires familiarity with public law and DOD directives pertaining to education of handicapped children. Clinical practice requires skill in diagnosis and treatment within a context of participating in a child's Individualized Education Program (IEP). Ethics and standards of practice must be applied within an interdisciplinary treatment team and interagency cooperation.

The information presented here is intended for psychologists who may become assigned to the Exceptional Family Member Program (EFMP) in Europe and for internship training directors who may have interns receiving assignment to the EFMP. The focus will be on clinical aspects of the position and recommendations will be made for psychologists preparing to assume EFMP duties.

The EFMP is a large Army-wide program governed by AR 600-75. It is designed to provide services to families with special needs in the areas of medical care, education, community support, and personnel actions. At the community level in Europe there are multiple agencies involved such as Army Community Service (ACS), Transportation, and Housing, with medical services from the local medical treatment facility providing just one aspect of the program.

A highly specialized part of the program is provided by the EFMP medical clinics. There are 18 EFMP medical clinics within the European theater; the majority are in Germany with one each in Italy and Belgium. The EFMP medical clinics have a threefold mission as specified by 7th Medical Command in August 1989. First, the EFMP medical clinics are to evaluate Department of Defense Dependent Schools (DODDS) students pursuant to special education eligibility and to determine if students need medical services related to their special education. Also, as a first priority, the medical clinics are to provide the medical services which are stipulated as necessary in a student's Individual Education Program (IEP) for special education. The second mission priority is to code the medical needs of eligible Exceptional Family Members for enrollment into the EFMP. Thirdly, the EFMP medical clinics may provide evaluations and treatment to Exceptional Family Members ages 0-4 with handicapping conditions.

There are five military psychologist positions for EFMP Europe, all in Germany. They are located at the Medical Centers in Frankfurt and Landstuhl,

and the MEDDACs in Heidelberg, Nuernburg, and Stuttgart. EFMP medical clinics are centered around a six member interdisciplinary "core team" consisting of occupational therapy, physical therapy, social work, developmental pediatrics, speech pathology, and psychology. Each MEDCEN and MEDDAC generally administers two or three satellite clinics. The satellite clinics may only have three or four of the core team disciplines represented, while the MEDCENs and larger MEDDACS may be augmented by disciplines such as psychiatry, optometry, community health nursing, and audiology.

As stated above, the highest priority for services is given to children with medical needs related to their special education. The requirement for children with handicaps to receive a "free and appropriate education" stems from Public Law 94-142. According to DODDS criteria, children may be considered educationally handicapped if they have physical, emotional, communication, or learning impairments. EFMP psychologists complement other medical and educational evaluations which are used to determine a student's eligibility for special education or to establish the need for IEP-related medical services.

The majority of psychological evaluations are conducted to determine whether a child has a psychiatric disorder. DODDS regulation requires that a clinical psychologist or psychiatrist conduct a diagnostic assessment when a child has a suspected emotional impairment. When a severe mental disorder is diagnosed, the student may be eligible for special education if the disorder impairs the ability to learn. The problem becomes defining "severe mental disorder."

Except for the specific mention of Schizophrenia, there are no DSM-III type diagnostic guidelines within PL 94-142, DOD instruction, or DODDS regulation. However, DODDS regulation does specifically exclude such diagnoses as hyperactivity, attention deficit disorders, antisocial behavior, parent-child problems, conduct disorders, and interpersonal problems. Most EFMP psychologists tend to interpret a severe mental disorder as meaning schizophrenia, psychosis, severe mood disorders, and severe anxiety disorders. After the diagnostic workup, the results are submitted to the school which then combines the information from the school's psychoeducational evaluation to consider the child's eligibility for special education.

Evaluations may also be requested by the school to determine if psychological services should be included as part of the child's IEP. Students who are on an IEP for any reason are eligible to receive services required for them to benefit from their special education. Children may have behavior problems stemming from severe learning disabilities and academic failure and need psychological support. Autistic and retarded children may require behavioral goals on their IEP to improve their social interactions. Various medical conditions such as juvenile diabetes, cerebral palsy, and neurological deficits from head trauma often require a program of behavior management or therapy to ensure attendance at school and assist with educational advancement.

The types of psychological services which may be included on the IEP range from direct therapy to consultation with parents or school personnel. Ongoing monitoring and assessment of a child's psychological status or neuropsychologically oriented evaluations may also be provided. A child in special education receives a multidisciplinary approach to meeting their needs. This team approach may include personnel from the school such as learning

improvement teachers, counselors, administrators, speech therapists, behavior management specialists, and the regular classroom teacher. The EFMP staff provides the IEP-related medical care or arranges required services which are beyond the clinic's capability. Needless to say, this approach requires the psychologist to be able to work closely with a diverse team of educational and medical professionals in the interest of the child's education.

Among the other categories of patients seen at the EFMP medical clinics are those children from birth to age 4 who have developmental disabilities. Infants who are at high risk for developmental delay due to prematurity, birth trauma, or genetic disorders can be monitored for growth parameters. Community "child find" activities frequently identify children with speech/language, motor, or social behavior delays. The psychologist is usually called upon to determine whether a child manifests a cognitive delay and to establish a baseline for future evaluations. Confirmed developmental delay can be addressed by follow-up through a combined program of early intervention and periodic assessments. Children who are 3 to 4 years old may be eligible for a DODDS developmental preschool which is available in some communities. For these children formalized, intellectual assessment is usually provided.

The environment of the EFMP is very different from other AMEDD MEDDAC psychology positions. The program is heavily civilianized which can contrast considerably for those used to working with "uniformed" staffs. The position requires extensive consultation with school personnel and requires a high degree of skill for translating evaluation results into practical suggestions for teachers. This also requires a high level of sensitivity to the concerns and pressures that teachers face when preparing a child's education program.

Perhaps most important is the ability to explain why a child does not have a severe mental disorder as defined by DOD regulatory guidance. It can be very difficult to face the pressures the school system brings to bear when a child with obvious severe behavior problems is not found to have the "magic diagnosis" which permits special education eligibility. To this end a good knowledge of PL 94-142, DOD Instruction (DODI) 1342.12, DODI 1010.13, DODDS Administrative Instruction 2500.9, and AR 600-75 is essential. Since the EFMP psychologists are highly accessible to the schools they often are seen as the potential solution to all behavior problems, and the special education system can become a conduit for accessing routine mental health resources.

The issues of informed consent, limits of confidentiality, and release of information can be difficult to balance within an interdisciplinary team. Although these issues are of critical importance to psychologists as a reflection of APA ethical principles, they are not necessarily a concern to other professions. Clinic policies may not always be easily adaptable to the needs of the psychologist who is just one professional within a team who may simultaneously be working with a patient. In general, it becomes incumbent upon the psychologist to spend extra time in a way that does not interfere with "team functioning." Parents must be fully informed about the role the psychologist plays in the team's evaluation and treatment, the intended purpose of the information obtained by the psychologist, the limits of confidentiality, and must provide written release of any evaluation reports for the school. These concepts are also very foreign to school personnel who may only be concerned with getting a child evaluated quickly by any means possible.

For psychologists who anticipate assignment to the EFMP, it is recommended they seek involvement with both categories of patients discussed in this paper. First hand experience with the special education process and school-based consultation is highly encouraged. For the 0-4 population, a caseload of patients followed through a developmental pediatrics department would be extremely helpful. Skills for infant and toddler assessment, and familiarity with developmental disabilities are important. Additionally, joint patient management with speech pathologists, physical therapists, and occupational therapists, will help develop an appreciation for the valuable assessment and treatment contributions of these professions.

THE MANAGEMENT OF TRAUMATIC STRESS REACTIONS IN POLICE OFFICERS

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There are certain events which are so shocking or life threatening they cause symptoms of psychological distress in most people, even if they escape physical injury. This situation is aggravated for police officers in two ways:

1. Police officers are expected to deal with the trauma of others in a calm and professional manner.

2. The possibility of serious injury or death is part of the every day work environment.

Events which can be particularly damaging include: (a) a violent confrontation in which injury occurs or is imminent, (b) automobile accidents, (c) hostage situations, (d) police related shootings, (e) assaults on officers, (f) rescue operations, and (g) investigations into extraordinary criminal acts (i.e., children involved homicides, etc.).

Traumatized officers may or may not show overt signs of emotional distress following such incidents. Most of them, however, will go through the predictable phases of emotional response to trauma:

1. SHOCK - an initial response lasting a few hours to a week during which the officer may appear dazed or preoccupied, may have difficulty with remembering simple things, and may act out of character (e.g., have outbursts of temper over inconsequential things).

2. IMPACT - starts some time after the initial crisis is over. Anger directed at management, other officers or anyone "responsible" for the traumatic event is common. Self-blame is also common. Periods of depression nearly always occur as the person allows the full impact of what happened to sink in.

3. RESOLUTION - may go on for up to 2 months. Depressive episodes become less frequent. The person begins to accept that he/she, their coworkers, and management did the best they could to deal with the traumatic incident and prevent such things from happening in the future. Finally, the individual comes to accept that such events, as regrettable as they are, do happen.

There are certain steps which can be taken to facilitate the normal recovery process from psychological trauma:

1. DEBRIEF - A Trauma Team conducts an initial debriefing, on site, for all officers involved in a traumatic incident. The debriefing is designed to allow the officers to process their emotional reactions to the incident. An effective debriefing is supportive and non-judgmental, helping to regain their shaken sense of security and self-esteem. An on-site, follow-up meeting with the Trauma Team normally takes place a week after the incident. This allows assessment of longer term reactions and aids in further processing of the trauma.

2. ENCOURAGE WORKING THROUGH - The primary purpose of the debriefing is to encourage the officers to begin dealing with their responses to the traumatic event. The single most effective method for the RESOLUTION of traumatic stress is talking about the trauma with others who went through it. You should encourage your officers to talk about the trauma and meet periodically as a support group to monitor their progress.

3. MANAGE THE STRESS - Keep in mind the traumatic stress reactions discussed above, and take steps to deal with them. These include: dealing in a sensitive manner with periodic stress reactions during the IMPACT phase; and being alert to any symptoms which might indicate officers are not successfully resolving their traumatic stress. In such cases, a referral to the Center should be made. Our experience has been that the support of coworkers during the weeks following the trauma is vital to RESOLUTION. Thus, you should encourage your officers to maintain their regular work schedules as much as possible following traumatic incidents.

Given a supportive work environment, most persons will successfully resolve their traumatic stress. Be alert, however, for signs of problems in this, which may appear early on or not surface until weeks after the trauma. These signs should become a matter of concern if they become habitual. A referral to the center should be made if you observe: (a) significant personality changes (e.g., isolation, irritability); (b) deterioration in work habits or attitudes; or (c) chronic lateness, absenteeism, or excessive use of sick leave.

Finally, investigations or court appearances related to the traumatic incident can be particularly stressful. "Re-playing" an incident can cause symptoms to surface--should this occur, we have staff members specially trained to assist in the process.

HEALTH PSYCHOLOGY IN THE 1990s

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Over the course of the Twentieth Century we have seen a medical revolution marked by dramatic increases in life expectancy. Two primary reasons for this revolution were the adoption of the germ theory of illness and the discovery of antibiotics. The most noticeable effect of this revolution was the shift from infectious to chronic diseases as the leading cause of death. While the former has specific microorganisms as the pathogen, the pathogen in chronic disease is often behavior. In the last decade, HIV-disease presented a new challenge to medicine. It is an infectious disease that is also a chronic condition and that has behavior lifestyle as its "pathogen."

The HIV epidemic is the greatest challenge to health psychology to date, and is a harbinger of things to come. Specifically, HIV-disease provides a preview of five major trends for health psychology in the 1990s. These trends are:

(1) The increased ability to identify people at risk through such biological innovations as HIV-antibody testing, risk factor screening, and genetic markers, and acknowledgment of the need for interventions to support individuals when they are confronted with risk factor status and to explore the potential of diverting risk through health promoting behavior changes;

(2) The development of cost-effective primary prevention efforts that provide information, emphasize individual vulnerability to risk, impart skills to carry out risk reducing behaviors, modify social norms to support behavior change, and maintain positive health behaviors while preventing relapse of behaviors that convey risk;

(3) The need for strategies that are effective in enhancing people's coping with chronic conditions, (a need hastened by the aging population), early diagnosis or health conditions, and the availability of medical advances that lengthen life;

(4) The placement of emphasis on the public health perspective with a concomitant shift from a focus on the health status of the individual to the health status of the community, a shift which can be beneficial in creating community norms that support health promotion and illness prevention; and

(5) The increased recognition of a world health perspective, including the global nature of risk and disease transmission, as well as the global nature of resources.

The HIV epidemic presents a challenge to health psychology that could be described as a microcosm of the challenges health psychology will face in the 1990s and beyond. While the implication of the trends for health psychology will reach far beyond HIV, the epidemic has created a place for health psychologists beside basic and applied scientists, policy makers, and clinicians. It is evident that the HIV epidemic is governed by behavioral factors which, in turn, elevate health psychologists to a leading position on the health care team. As we face future challenges, the question for health psychology is, can we rise to the challenge? Can our theoretical models, research designs, methods, and commitment to health withstand this test?

THE ROLE OF BEHAVIORAL MEDICINE IN HIV/AIDS RESEARCH: FRAMEWORK FOR THE BEHAVIORAL MEDICINE PROGRAM OF THE WALTER REED RETROVIRAL RESEARCH GROUP

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The spectacular advances in biomedicine over the past 60 years have resulted in a major shift in research emphasis in recent years from the acute infectious diseases to chronic illness. The consequent reallocation of resources and personpower has also resulted in a rethinking of approach, a refocusing of perspective. New breakthroughs on the theoretical, conceptual, and technological levels (e.g., biofeedback, the role of the central nervous system in autonomic system mediation, physiological response to environmental stressors, etc.) have underlined the necessity for reconceptualizing the nature of biological and behavioral interrelationships. Clearly, a more comprehensive approach to disease prevention and control was needed in order to comprehend the multifaceted nature of serious health problems (1).

The field of behavioral medicine encompasses the entire health-illness spectrum, from basic scientific exploration of brain-body mechanism issues to public health strategies for disease prevention and health promotion at the community level. This breadth requires extensive collaborative efforts between biomedical and behavioral scientists at the basic, clinical, and public health levels.

Behavioral medicine is based theoretically on the biopsychosocial model of health and illness advanced by George Engel (2), which encourages the clinician to observe both morphological and biochemical changes in the patient while also attending to the patient's social environment, attitudes toward illness, life goals, intrapsychic conflicts, and emotional patterns. Applied to the problem of HIV, a further tenet of the biopsychosocial model is that the health and sense of well-being of individuals affected by HIV are not dependent solely on the achievements of biomedicine. Such an assertion is particularly important to reinforce at this time when there is no medical cure for AIDS and the possibility of a vaccine is in the distant future. To the extent that psychosocial and behavioral variables influence susceptibility to HIV infection, quality of life, and possibly progression of HIV disease and longevity, then these variables become critical to consider in HIV prevention and intervention. A problem of this proportion requires a comprehensive approach to inform medical, psychological, and public health intervention and prevention efforts (3-5).

The following proposed program of research for the Behavioral Medicine Program of the Walter Reed Retroviral Research Group (WRRRG) has been drawn up as a systematic blueprint for coordinated and complementary behavioral science investigation. The structure of the program can be visualized as a cube (see Figure 1). On the horizontal axis are the major program elements: studies of HIV seropositive individuals, and studies of HIV seronegative individuals. On the vertical axis is type of study: from basic through descriptive/clinical to applied. The third dimension is level of analysis, from biological systems

through the individual, to network, institutional, and cultural levels of analysis. It should be noted that each cell in this cube does not necessarily refer to a separate study, but refers instead to an investigatory focus.

In the program of research outlined below, current, planned, and possible studies are described briefly and categorized in terms of their coordinates on the dimensions in Figure 1. Two purposes of this categorization exercise are (a) to identify programmatic gaps, and (b) to provide a frame of reference for considering our program in comparison to HIV behavioral research programs supported through, in particular, the National Institute of Mental Health (NIMH), which has been the major agency sponsoring HIV behavioral research. It is important for us to identify areas in which we are doing totally different research than NIMH, areas in which we overlap and thus where systematic comparison or replication studies may be useful, and areas in which our efforts would be duplicative and best eliminated.

It should be emphasized that the program outlined here is in its formative stages. Many of the research domains suggested theoretically in Figure 1--particularly applied studies and those at the cultural level of analysis--will probably not be operationalized or implemented for several years. It is our intention and plan, however, for the program to encompass ultimately all the domains suggested by the framework depicted in Figure 1.

It is important to note some programmatic differences between the kinds of research that may be possible through the NIMH and the Behavioral Medicine Program within the WRRRG. First, unlike most of the NIMH-funded HIV Research Centers, which consist largely of clusters of separate studies under a general rubric (e.g., "prevention"), our program is composed of studies which are interdependent, and which together, like bricks in a house, combine to create a solid structure. The more basic studies will serve as necessary foundations for intervention studies; although in some instances, basic studies will run concurrently with intervention studies, which will be modified in their course by results from more basic studies.

Another unique characteristic of our program of research is that the program takes as a point of departure the necessity of considering the biological, psychological, and social dimensions of HIV in interaction. Further, all studies are conceived within the framework of clinical and/or policy applications. In other words, studies are not proposed solely for the purpose of increasing understanding, as may be the case for much NIMH research, but rather, for the purpose of providing necessary information to inform the development of interventions. These more basic informative studies will be more characteristic of our program in its first few years. Over time, these efforts will be replaced by implementing and evaluating the effectiveness of interventions. This is a critical area in which our program will stand alone in that because of the institutional and systems nature of the military, it will be easier for us to conduct institutional and community interventions--and to evaluate them--research that is all but impossible in the civilian sector.

Finally, the structure of the WRRRG permits us to plan for change, which is one of the most difficult aspects of HIV research. Studies can be outlined up to 5 years in advance, but the successful HIV behavioral science research program is one that can respond flexibly and creatively to the changing nature of the epidemic: to advances in biological understanding of the virus; to new treatment developments; and to changes in public opinion and public health

policies. The HIV research centers supported by NIMH were intended to be able to respond to changes in the field, but operations have pushed them in the direction of committing all their funds to specific projects, with very little discretionary funding even for pilot studies. It is critical that the HIV Behavioral Medicine Program within the WRRRG maintain the ability to respond to change and to devote some personnel and other resources to monitoring developments in the field. This will allow us to respond quickly, and even to be proactive when opportunities for groundbreaking studies are revealed. This ability may be the most important characteristic that will distinguish our program of research from others in the field.

Basic Behavioral Medicine Research

The development of HIV disease, beginning with infection and encompassing a number of stages including AIDS, is of crucial importance to our understanding of the disease. It is now clear that the disease progresses at different rates in different people. For some, the initial latency period immediately following infection may be brief; while for others, symptoms of disease progression may not appear for several years. While it has been predicted that nearly all people infected with HIV will eventually develop AIDS, the fact that progression occurs at such variable rates suggests that interactions between biological and psychological variables may influence the manner in which the virus functions in the body.

There are several ways to study these issues, ranging from large, correlational, longitudinal studies of high-risk individuals to controlled studies of stress-management or other interventions with HIV seropositives. Although it is perhaps premature to consider stress management interventions as treatment against disease progression among individuals with HIV-spectrum disorders, it may be useful to study their effects. Such studies may provide more information about stress and immune function, as have studies of stress reduction and immunity in other populations.

Second, although we do not know that stress reduction will affect immune status and disease state among individuals with HIV-spectrum disorders, the possibility that it may do so is sufficient to justify exploratory studies. Stress also has other effects, including behaviors that can affect general physiological status and health (e.g., diet, exercise).

Given a particular genetic composition and/or physical exposure to a disease agent, a number of environmental factors can modify the host's basic immunocompetence to produce a temporarily enhanced immunity or acquired immunodeficiency. Perhaps the most prevalent but least understood of the environmental modulators of human immunocompetence are behavioral factors. Investigators in the field of psychoneuroimmunology postulate both personality (trait) and emotional (state) factors in the onset and course of immunologically resisted diseases (infectious and neoplastic) and diseases of immunologic aberration (allergic and autoimmune), as well as intimate two-way interactions between the central nervous system (CNS) and immune system (6). As such, psychosocial factors might be expected to play a role in HIV related diseases, which are themselves extraordinarily stressful life events.

There is an increasing body of literature on the relationship between behavioral factors and cancer progression (e.g., 7-14). Further, a number of recent studies in animals and humans have linked stress and/or behavior factors with immune response (e.g., 15-20). There are especially prominent effects on cellular immunity measured by T-lymphocyte proliferation in response to mitogens and natural killer (NK) cell activity (21-23). Probable psychologically conditioned reductions in these crucial defense mechanisms have been related to increased risk of developing cancer and possibly infectious diseases, as well as to cancer progression (22, 24). NK cells are particularly important in these situations (23).

Given the increasing number of studies in the wider field of psychoneuroimmunology which link stress and/or behavioral factors with immune response and disease progression, psychosocial factors might be expected to play a role in HIV disease (25). While there has been much interest and speculation about the relationship of psychologic and immunologic factors in AIDS, there is little published empirical research in this area, to date. A number of scientific workshops sponsored by the National Institute of Mental Health over the past 3 years, which have been devoted partially or solely to the question of psychoneuroimmunology and HIV disease, have not resulted in any clear-cut messages for the field in terms of either methodology or results. One possible explanation is that this area of research is extremely complex, in that (a) it concerns a relatively new disease about which much remains unknown; (b) it requires up-to-the-minute knowledge of new developments in the biological, immunologic, and psychosocial domains; (c) controlled clinical trials are difficult and often impossible; and (d) our methods, developed mainly on healthy subjects, are not adequate to the task of examining psychoneuroimmunologic relationships in a quickly changing disease context in which the infective agent is itself lympholethal and appears to directly infect the brain. There are, however, some critical questions that can be addressed by research in this area:

1. How are specific psychosocial variables and/or their interactions related to specific aspects of immune functioning and their patterning?
2. Are certain psychosocial variables associated longitudinally with development of symptoms and with the course of HIV, and are these variables related to certain immunologic measures?
3. Are HIV seropositive individuals who have faster disease progression different psychosocially and/or immunologically from those whose progression is slower?
4. Are there any <u>patterns</u> <u>of</u> <u>relationships</u> between psychosocial variables and immunologic variables that characterize individuals who have a better or worse course of disease than expected medically?
5. How are psychosocial variables correlated with severity of illness or dysfunction in symptomatic individuals at different levels of immune status (e.g., different numbers of CD4 cells)?
6. Are there psychosocial differences between individuals who have or who develop neurologic manifestations and clinical organic syndromes associated with HIV infection and those who do not? Are there any psychoimmunologic patterns that distinguish these two groups?
7. Are the relationships between psychosocial and immune or medical status measures found in this study similar to or different from those reported in the literature for the onset and/or course of other immunologically-resisted diseases (infectious or neoplastic), or diseases of immunologic aberration (autoimmune or allergic)?

While NIMH has funded a handful of studies concerned with the psychoimmunology of HIV, notably at the University of Miami and at the University of California Los Angeles, these studies are not large enough to include other variables and domains that can affect psychoimmunologic relationships. The major domain left out is the neurologic. Problematically, most of these studies do not include an adequate assessment of HIV risk-relevant behaviors that can certainly affect immune system functioning and disease progression. Further, dates of seroconversion are rarely known, severely compromising interpretations of findings. Finally, these studies are largely limited to correlational analyses of psychological and immunologic relationships because they do not have the ability to follow subjects to determine medical outcomes. The Walter Reed Behavioral Medicine Research Group would be able to overcome all these methodological obstacles: (a) through the proposed collaboration with the University of California San Diego HIV Neurobehavioral Research Center, we would be able to capitalize on the center's concentration on the neurologic dimension and to include this critical domain in the dataset; (b) as part of the Tri-Service Psychiatric Natural History Study, HIV risk-relevant behaviors are being carefully assessed so that the contribution of these important modulators of immune function and disease outcome can be included in analyses; and (c) because of the military's HIV testing procedures, approximate time of infection will be known for subjects, and medical follow-up will be many times easier than in the NIMH-funded research. For all these reasons, the Behavioral Medicine Program of WRRRG may have, arguably, the greatest potential for conducting the definitive investigations of psychoneuroimmunologic relationships in HIV.

DESCRIPTIVE AND CLINICAL STUDIES

Neuropsychological studies. Stress may also affect the transport of HIV into the CNS and/or its consequences once there. The relationships between stress and cognitive functions such as memory are not yet clear. Although stress has been shown to interfere with performance on a variety of tasks, most of the research on these effects has been conducted in laboratory settings. More critical are the effects of stress on progressive damage by the HIV once it begins to act. Again, studies directed at the interrelationships of HIV infection and progression, immunologic changes, stress, performance deficits, and organic brain damage will yield important information. Ultimately, research directed at evaluating the benefits of stress management with HIV patients and at the best means of dealing with neurological complications will address survival and quality of life, as well as determining whether intervention among seropositive and high-risk groups produces positive effects on disease progression or on incidence of infection.

Advances in our understanding of HIV diseases have resulted in an increased awareness of associated neuropsychological sequelae. CNS dysfunctions frequently complicate diagnosis and treatment. Generalized encephalopathy, including dementia, is often a presenting feature within this population. More than half of hospitalized AIDS patients show signs of organic mental disorders. Reference to neuropsychiatric complications were found in the charts of all AIDS patients hospitalized during acute illness at Memorial Sloan Kettering Cancer Center, and roughly 65% of these patients had signs of an organic mental syndrome (26). Levy et al. (27) found 39% of AIDS patients examined to be neurologically symptomatic. A significantly larger number of patients (73%) were found to have CNS abnormalities upon autopsy (27).

While increasing attention focuses on the neurotropic nature of HIV disease among hospitalized patients, the amount of organic involvement among non-hospitalized persons with AIDS or AIDS-related complex (ARC) is unclear. Clinicians, researchers, and the CDC (26) now recognize dementia in the absence of opportunistic infections as a primary presentation of AIDS. HIV is known to be neurotropic and is believed to cause this progressive dementia (27). Anecdotal reports indicate that as many as 50 to 70% of patients with HIV disease seen for psychiatric consultation demonstrate certain aspects of dementia (28).

There are wide-ranging neurological manifestations and clinical organic syndromes associated with HIV (27). Problems of orientation, concentration, attention, mood disturbance, emotional lability, and both short- and long-term memory are frequently found among patients with HIV disease. However, these problems tend to be undiagnosed and/or undertreated (29). Dementing illnesses have a slow and gradual onset marked by a clear sensorium in the presence of measurable cognitive deficits such as confusion, the inability to retain new information, and disorientation with short- and long-term memory deficits.

Organic symptoms arising from AIDS itself or from its treatment present psychosocial complications (28-30). Often, signs related to organicity are confused with psychosocial aspects. The unexplained onset of depression in AIDS patients who have otherwise been coping adequately may reflect the onset of a CNS process such as dementia. Other CNS diseases, such as encephalitis and lymphoma, often produce cognitive losses, mood disturbances, vegetative signs, personality changes, and impulsive behavior, all of which may mimic psychogenic disorders (31).

Neurological and cognitive impairment as well as a variety of behavioral symptoms have been described as frequent concomitants of HIV spectrum disorders. Grant et al. (32) found that 87% of 15 persons with AIDS (PWA) manifested atypical and impaired neuropsychologic performances. Price et al. (33) reported that by the final phase of illness, approximately 2/3 of all PWAs manifest the AIDS Dementia Complex (ADC). Tross et al. (34) described only 5% severe impairment on a battery of neuropsychological tests in newly diagnosed PWAs (N = 44) and 61% severe impairment in a "late" AIDS group (N = 40). Impairment was most prominent in tests that assessed motor speed and fine control, concentration, problem solving and visuospatial performance. In terms of persons with AIDS-related complex, Grant et al. (32) reported that 54% of 13 individuals were impaired, using a battery of neuropsychological tests. Neurological and neuropsychological abnormalities in the "mildly impaired" range were reported in 50% of 18 seropositive men with lymphadenopathy syndrome. There is conflicting evidence in the literature for impairment in seropositive but asymptomatic persons. Grant et al. (32) claimed an abnormality rate of 44% in 16 seropositive asymptomatic subjects. McArthur et al. (35) reported "neuropsychiatric findings" in 22 of 33 seropositive men, as well as a high rate of cerebrospinal fluid abnormalities. On the other hand, Rubinow et al. (36) did not find cognitive impairment in 9 seropositive asymptomatic subjects, while Tross et al. (34) found only 12% of a group of 16 such subjects showed substantial evidence of impairment.

A precise comparison of these studies would have to address differences in subjects, severity of disease, ongoing treatments, neuropsychological tests used, and interpretations of "impairment." It is also critical to examine changes in neuropsychological status over time, as well as associations with changes in other variables. The studies reported above are cross-sectional rather than longitudinal in nature. It is possible that another source of differences across studies could be a function of different levels of psychological distress, which is known to affect cognitive and motor performance. None of the studies above have assessed neuropsychological status in combination with psychosocial factors. Distress could be a function of several different factors, including: (a) stage of disease, which could have a psychosocial and/or a neuropsychological influence; and (b) social support, which could provide a buffer against distress, and which could vary as a function of individual coping skills and/or social context. Thus, it is important that future neuropsychological studies of HIV include additional domains of variables from the behavioral medicine perspective. The Tri-Service Psychiatric Natural History Study will be able to include these additional domains, assessed longitudinally, in neuropsychological studies.

A number of questions about the relationship between HIV activity in the periphery and its effects on the CNS can be posed. One of the most significant of these is whether these actions proceed together or occur at different rates governed by different variables. If the latter is the case and CNS effects are more or less independent of consequences for immunity, can evidence of disease be detected before the onset of classic symptoms and the drastic compromising of immunity? Can changes in psychological distress be tied to changes in neurological symptoms? Finally, identification of the pattern or patterns of neuropsychological deficits associated with HIV infection and the study of behavioral correlates may ultimately provide important information about how CNS problems affect preventive and treatment behavior, about whether observable behavior changes provide indications of CNS deficits, and about the nature of neuroregulation of behavior.

Studies of disease-psychosocial effects. Closely tied to the issue of progression of HIV disease is the question of how best to intervene psychiatrically and behaviorally with patients once infection has been documented or symptoms have appeared. There are few published empirical studies on treatment or management of distress and other psychological consequences of disease progression. Empirical studies are needed to assess what is effective in reducing behaviors relevant to disease transmission, in reducing psychological distress, and in promoting adaptive coping to the social stressors associated with HIV-spectrum disorders.

Among the potentially fruitful area of work with HIV-infected patients are social variables such as support, perceived control, and attributional tendencies. Social support is recognized as an important variable in studies of stress and morbidity and appears to provide some protection from illness and stress effects. However, because of fear or other aspects of reaction to victims, social support may not be as available to persons infected with HIV as to people with other diseases. Not having social support, losing it, or receiving noncontingent social regard because one is ill are important variables. Perceived control is also critical. We know that a sense of control can reduce the consequences of stress. Does perceived control change

when someone is infected with HIV or as the disease progresses? Do neuropsychological deficits affect perceived control, or does localized brain damage affect these perceptions?

Behavioral interventions in HIV patients have not been systematically investigated or evaluated. Stress management may prove to be important, but other interventions are also of potential significance. How can we modify risk perceptions and, thereafter, potentially risky sexual behaviors? At another level, interventions for family, dependents, and friends are called for, yet are rarely provided, documented, or studied. We know that there are consequences of having a terminally ill spouse or child; bereavement, coupled with the unique problems of having a friend or family member become ill with HIV, requires special attention. The development of new therapies to deal with these and other HIV-related problems, particularly within the military context, is critical.

Studies of treatment compliance. Another, less investigated area of HIV clinical research in which behavioral medicine can play a role is that of patient compliance with medical treatment. Compliance with medical regimens has been a nettlesome problem for the biomedical community in the areas of smoking, obesity, alcohol, cholesterol, and other so-called secondary risk factors for various diseases. Compliance with HIV protocols and treatments has been a problem for HIV disease, as well, and factors such as patients' understanding of various treatments, perception of side effects, influence by peers and community, and patient-physician communication can contribute to whether or not HIV patients cooperate with prescribed treatments (37, 38). Preliminary investigations in this area will be included as part of the Psychiatric Natural History Study so that the potential contributions of disease status, neuropsychological status, alcohol and drug use, and psychiatric disorders can be assessed. On the basis of these findings, separate protocols with treatment compliance/protocol enrollment as the main focus of study will be developed.

It would be useful to remain poised to study the effects of announcements of new developments in treatment. For example, if AZT is made available on a prophylactic basis to all HIV infected soldiers and dependents with certain CD4 cell numbers, and all eligible individuals are contacted about the availability of no-cost treatments, what percentage of individuals will elect NOT to receive treatment? Are there any demographic or psychosocial variables that distinguish those who elect treatment and those who do not?

HIV transmission risk-relevant behaviors. Sexual activity is one of the two most common routes of HIV transmission, at least at the present time in the United States. The nature of sexual behavior makes it difficult to study, particularly by direct observation. Sanctions against reporting taboo or illegal behaviors, particularly in the military setting, present barriers to collection of valid data. Information drawn from studies of contraception and sexually transmitted diseases (39) should be applied in trying to discern ways to instill responsible and protective behaviors.

APPLIED STUDIES: EDUCATION, PREVENTION, AND HEALTH PROMOTION

HIV has had, arguably, more impact on the minds and behavior of people throughout the world than any epidemic--or pandemic--in history. Studying the effectiveness of HIV education in preventing infection by the virus,

particularly in the highest risk groups--homosexual men and intravenous drug users--has become a high research priority. Yet, only in the past 2 years have there been empirical studies about the HIV-related knowledge, attitudes, beliefs, and behaviors of those "less at risk." Such studies are important for four reasons:

Tomorrow's new "high risk" group will emerge from those who are "less at risk" today. Fears of HIV spreading beyond the current highest risk groups (homosexual men, intravenous drug abusers) into the wider heterosexual community have fortunately not been realized in the U.S. or Europe. However, epidemiological evidence suggests that HIV is a bidirectional, heterosexually transmitted disease in parts of Africa and Haiti (e.g., 40, 41). By 1990, a sevenfold increase in the number of cases attributed to heterosexual transmission has been predicted (42). Thus, while a lack of data on HIV spread into the U.S. general population hampers estimates (43), there is a strong argument for directing health education and prevention campaigns toward anyone who is sexually active.

Studies of "less at risk" populations have been concerned mainly with high school and college-aged students (44-50). Several published studies have addressed HIV knowledge and attitudes in the wider "general public" (51-54). Most of the work assessing public opinion about HIV has been in the form of polls by Gallup, Harris, ABC, CBS, NBC, the Los Angeles Times, and so forth (55, 56).

Because young people are sexually active and are likely to experiment with alcohol and drugs, they are at particularly enhanced risk for HIV infection. Of course, this is precisely the age group from which the Army recruits, which suggests that health education and HIV prevention campaigns could be effectively directed at new recruits.

There are persons who are currently at increased risk for HIV infection, but who may not consider themselves at risk for HIV. Their needs are probably not well addressed by HIV education and prevention campaigns aimed at those groups of highest risk for acquiring or transmitting HIV. This group of persons at increased but unacknowledged risk includes the spouses or sexual partners of intravenous drug users and bisexual men, persons who engage in homosexual behavior or who use IV drugs occasionally but who do not identify themselves as homosexuals or IV drug abusers and sexually active heterosexuals (including prostitutes) who live in high-risk areas. The female partners of infected men pose an additional problem: if one who is infected and becomes pregnant, she may transmit the virus to the fetus; pregnancy can also precipitate overt disease in a woman who is a carrier (57). Many of these individuals who are currently at increased risk are blacks and Latinos, for whom targeted HIV education is now being urged by the Centers for Disease Control and other HIV experts (58-60).

A recent study of clients in two Baltimore clinics that treat sexually transmitted diseases indicated that the AIDS virus appears to be spreading heterosexually among that city's black population (61). This report also suggested that those at increased risk for HIV were either not aware of this risk or were not doing anything to prevent acquiring the virus: 54.5% of the men and 67.7% of the women attending the Baltimore STD clinics said they never

used condoms; 42.3% of the men and 28.1% of the women said they sometimes used condoms, and only 3.2% of the men and 4.2% of the women said they always used condoms.

Male-male sexual contacts in the military are often not considered to be "homosexual." Men engaging in such behaviors usually do not think of themselves as homosexual, as part of a "homosexual community," nor, importantly, at risk for HIV. These men may then have sexual contact with women, who are less likely to use condoms than are gay men in this age of AIDS. Thus, there is a very real potential for HIV "heterosexual," or more precisely, "bisexual" transmission in the military. Investigations in this area are a top priority for the Walter Reed Behavioral Medicine Program.

Excessive and unwarranted fear of AIDS (AIDS "anxiety," "panic," or "hysteria") in the general public poses its own dangers. At the individual level, medical and mental health practitioners are having to deal with an increasing number of persons who are incapacitated to varying degrees with anxiety and hypochondriasis about AIDS (62-67). The medical consequences of irrational fears and erroneous beliefs about HIV transmission include (a) shortages of blood donations, (b) underuse of hepatitis B vaccine, (c) refusal of necessary blood transfusions (68), and (d) overloading already strained HIV test centers with low risk persons unduly anxious about AIDS, some of whom will be false positives.

In 1988 there was a great deal of controversy over a book by Masters, Johnson and Kolodny (69) which claimed, in sharp contrast to the findings of other researchers, that the number of heterosexuals infected with the AIDS virus has been gravely underestimated. Because the findings of their study were published in a mass-market book, which was excerpted in the popular Newsweek magazine, rather than a scientific journal, there was the potential of alarming the general public. This is in spite of negative reactions from HIV experts such as then U.S. Surgeon General C. Everett Koop who called the work "irresponsible" and accused the authors of "scare tactics" (70).

At the societal and policy level, there is mounting and alarming evidence of discriminatory practices--with respect to employment, housing, insurance coverage, and school attendance--and violence against persons with AIDS and seropositive individuals (71). As the disease affects people who are already stigmatized in our society, it is likely that further discrimination against these groups may occur as a result of the epidemic, and may block cooperative health-promoting collaboration between seropositive and high risk persons with the medical and public health sectors. Drastic and unjustified recommendations for extreme and simplistic policy measures, such as segregation of the infected population, have been introduced and sometimes adopted (cf. 72-74). On the other hand, it is gratifying to note that corporations such as Pacific Gas and Electric, Pacific Bell, Levi Strauss, Chevron, and Bank of America in San Francisco have pioneered in establishing policies forbidding discrimination against workers with AIDS. In February 1988, a code of principles for the treatment of employees afflicted with AIDS was adopted by 30 major New York corporations.

Despite the impact of HIV on all levels of society, there have been few empirical studies published in scientific journals which document HIV fear and anxiety in the general public (e.g., 53, 54, 75), and none documenting the effects of this fear and anxiety on organizations. Such research would be of

great importance to the military, in which performance is so critically determined by morale and organizational issues.

Health workers need to be educated about infection control procedures in working with HIV-infected patients. There are increasing media reports that some health professionals are reluctant to treat, or are refusing to treat, HIV-infected individuals, and that fear of HIV is growing among doctors and dentists, as well as teachers (76, 77). This is particularly a problem, as these professionals often have responsibility for providing leadership in informing and educating the public. (For a discussion of HIV, medical ethics, and policy, cf. 78-80).

Most of the studies dealing with health professionals have focused on providing education to improve practitioners' knowledge and behaviors about infection control and HIV, or on reducing workers' stress, with limited discussion of social and/or policy implications (81-85). The exception is an article (86) which concluded that discomfort in dealing with gay patients may constitute a major barrier to the provision of optimal care for HIV patients.

There are many reasons for directing health education programs at the Army's medical corps: (a) these individuals appear to be, statistically, at increased risk for HIV infection; (b) these individuals are in a position to provide education about HIV transmission; and (c) these individuals are in a position to provide support, education, and guidance to HIV infected individuals.

THE ANTHROPOLOGIC PERSPECTIVE

Sociologic and anthropologic studies have documented how concepts of health and illness often reflect cultural and sub-cultural contexts. The Health Belief Model (87) is probably the most useful model to date of the relationship between people's health beliefs and health behaviors. This model hypothesizes that preventive health action in the absence of disease symptoms is influenced by a person's beliefs that (a) he or she is personally vulnerable to disease, (b) the occurrence of disease will have some moderate to severe effect on the person's life, and (c) the perceived effectiveness of advocated health measures are weighted favorably against a person's perception of the physical and psychological "costs" of the recommended action. Further, the model suggests that sociological variables such as social class and peer influence will influence whether recommended behavior changes are actually made. Cultural and subcultural contexts may also determine the method of education likely to be most effective within a given community. For example, brochures will have little impact on persons who do not read or do not comprehend the language in which the brochure is written. Similarly, if the person highlighted in a television spot focused on HIV education has attributes the viewer admires or with which the viewer can identify, the message is much more likely to make a positive impact than if the viewer regards the spokesperson as having dissimilar characteristics, experiences, and/or values.

Understanding the response to HIV, on both the individual and policy levels, would be enhanced by comparative research on HIV as a social phenomenon (88, 89). For the most part, cost-benefit analysis and other rational planning criteria have generally played a relatively small role in forging various national HIV policies, compared to reactive decision-making stimulated by the highly politicized climate surrounding HIV (90). Through its effects on the

decisions of elected representatives, the public's attitudes about HIV play an indirect but significant role in determining differing national and local funding priorities for education and research. The impact of these differing priorities warrants investigation. Comparative studies would also provide insight into how other countries are dealing with HIV education and prevention, and the effectiveness of various intervention efforts.

There have been several anthropological examinations of the HIV epidemic that have contributed to an understanding of disease transmission in different social, cultural, and sub-cultural contexts (e.g., 73, 91). There are relatively few empirical studies (e.g., 53, 92) that take a comparative approach to understanding the public's responses to HIV. There was, however, a 33-nation survey on attitudes towards AIDS, conducted by Gallup International, presented to the First International Conference on the Global Impact of AIDS in London, January 1988 (93).

An overview of research in the area of HIV prevention suggests that knowledge plays a relatively small role in whether people adopt safer sex behaviors and curtail risk behaviors. Health-related attitudes and beliefs, and especially community-based influences appear to have more impact on changing HIV risk-relevant behaviors. To be effective, HIV prevention efforts in the military must be based on a clear understanding of (a) the nature and extent of HIV risk-relevant behaviors; (b) the nature and extent of current knowledge, attitudes, and beliefs about HIV; and (c) the military's social milieu and how HIV risk-relevant sexual and drug taking behaviors are influenced by this milieu. Because of the nature of the military as, in some respects, a closed system, it provides an ideal context in which to study the role of social and sub-cultural norms, values, and beliefs as these affect HIV risk-relevant behaviors and to implement interventions at network and institutional levels to change these variables and influence behavioral outcomes.

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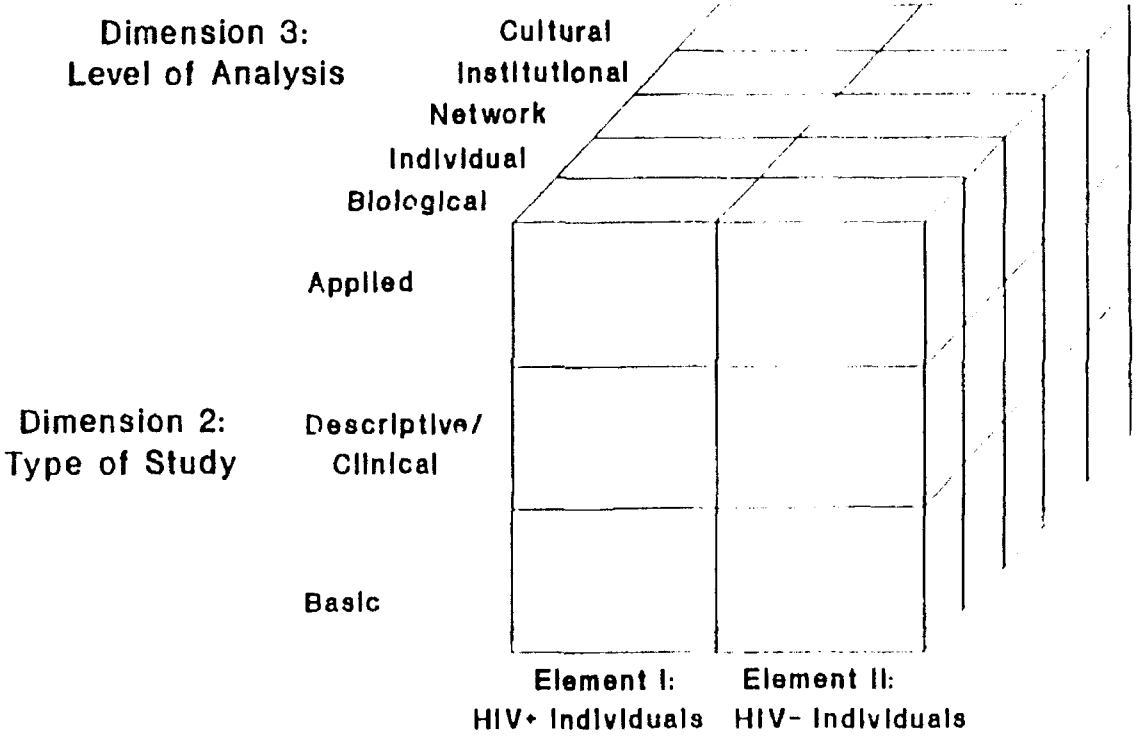
Figure 1:
Framework for Behavioral Medicine HIV Studies



COGNITIVE DYSFUNCTION AND PSYCHOSOCIAL FACTORS IN SYMPTOMATIC SEROPOSITIVE MEN

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Investigation into the neuropsychological status of HIV infected individuals has gained prominence steadily. Numerous studies have confirmed that neurological problems can develop as a consequence of HIV infection. A large number of studies have found cognitive impairment to be prevalent among asymptomatic and symptomatic seropositives, and those with ARC and AIDS. Cognitive impairment and an array of behavioral and motor symptoms have been reported as frequent concomitants of HIV spectrum disorders and attributed to a variety of direct and indirect causes. Questions remain about the prevalence and severity of cognitive impairment along the spectrum of HIV disease. While many studies have documented neurological disorders as common complications of AIDS, there are conflicting findings about the degree and source of impairment in earlier stages of HIV disease. The purpose of this study was not only to determine the presence and degree of cognitive impairment in symptomatic seropositive persons, but to determine whether impairment was associated with psychosocial factors, reflecting another indirect effect. We hypothesized that discrepant findings across studies reporting on the prevalence of cognitive impairment in HIV infected individuals could be attributable to varying levels of psychological distress and coping ability.

METHOD

Subjects were 102 HIV-1 seropositive men (gay/bisexual) who had at least one HIV-related symptom. The measures included: the Verbal and Visual Memory subtests of the Wechsler Memory Scale (WMS) with 30 minute delay; Digit Span from the WMS; the Controlled Oral Word Association Test (COWAT); the Trailmaking Test (TMT), forms A and B; the Relational Concepts (R2) and the Logical Grammatical Relations (R6) factor scales from the Receptive Speech Scale of the Luria Nebraska Neuropsychological Battery; and, the Constructional Ability subtest of the Neurobehavioral Cognitive Status Examination (NCSE). Results were scored using published norms, adjusted for age and education, and standardized impairment ratings were then given to each test score. Standard psychosocial scales of distress (Beck Depression and Hopelessness, Speilberger Trait Anxiety), coping (Kobasa's Hardiness Scale, the Cortauld Emotion Control Scale, and a subscale of the Social Support Inventory), and mood (McNair's Profile of Mood States [POMS]) were administered. The Marlowe-Crowne scale of social desirability was administered to assess defensive style. All subjects completed a checklist of self-reported hard symptoms (e.g., thrush, candida, weight loss, fever, lymphadenopathy, and night sweats) and self-reported cognitive symptoms (e.g., memory, concentration, problem solving, speech, and orientation problems).

RESULTS

Eighty-nine percent of subjects showed at least mild impairment (at least 1 standard deviation (SD) below adjusted published norms); 59% showed at least moderate impairment (at least 2 SD below norm); 32% showed at least marked impairment (3 SD below norm); and, 19% revealed severe impairment (4 SD below norm). Most impairment was found on measures of memory, including both immediate and delayed verbal (47%, 49%) and visual (43%, 46%) subscales of the WMS. Relatively less impairment was noted on a measure of verbal fluency (COWAT, 17%) and visual-spatial ability (Constructional Abilities, 4%). While only 18% revealed impaired total digit span, a measure of concentration, 28% had significantly less backwards than forwards digits ($\geq$ 3) and 39% had a total of four or less digits backwards. Similar differential impairment was observed on the factor scales of Receptive Speech; while only 7% evidenced impaired logical grammatical relations, involving purely verbal processes of comprehension, 30% revealed impairment using relational concepts (R2), requiring translation of verbal relationships through non-verbal mental imaging. Greater impairment was found on Trailmaking A (32%) than the more complex Trailmaking B (24%).

Anger/Hostility was significantly correlated with greater impairment in the most prevalent areas of neuropsychological dysfunction; immediate and delayed verbal/visual memory and relational concepts (R2) (r ranging .19 to .32, $p < .05$ to $< .001$). Greater impairment on Digits, Verbal Fluency (COWAT), and Trailmaking was significantly correlated with coping style: for social desirability, ($r = .21$ to .31, $p < .05$ to .01); for emotional and anger control, ($r = .16$ to .29, $p < .10$ to .01). The Kobasa Hardiness Scale, a measure of psychological strength, coping resources, and adaptive capacities was negatively correlated with impairment on immediate and delayed Visual Memory, Trailmaking and Receptive Speech ($r = -.17$ to $-.27$, $p < .10$ to .01). Emotional Support Available was negatively correlated with problem solving (TMT), verbal fluency (COWAT), Constructional Abilities (NCSE), and Delayed Visual Memory (WMS) ($r = -.17$ to $-.26$, $p < .10$ to .01). Beck Depression and Hopelessness and most subscales of the POMS (Depression-Dejection, Tension-Anxiety, Confusion, Fatigue-Inertia, and Vigor-Activity) were not significantly associated with neuropsychological impairment.

Self-reporting as to the number of hard symptoms was highly correlated with most measures of distress, coping and mood, although not significantly correlated with measures of neuropsychological impairment other than Digit Span ($r = .20$, $p < .05$) and Trailmaking B ($r = .18$, $p < .10$). The average severity of self-reported cognitive symptoms was correlated with most neuropsychological measures ($r = .18$ to .34, $p < .10$ to .001). However, the, average severity of self-reported cognitive symptoms was more highly associated with measures of mood and distress ($r = .21$ to .43, $p < .05$ to .001). Step-wise multiple regression analysis onto the average severity of self-reported cognitive symptoms was conducted, entering the significantly correlated psychosocial variables first, followed by measures of neuropsychological impairment. The psychosocial variables of Beck Depression, Beck Hopelessness, Confusion, Depression-Dejection, and Trait Anxiety combined to correlate .66 ($p < .001$) with the average severity of self-reported cognitive symptoms, accounting for 43% of the variance. Two neuropsychological measures (COWAT and R6) contributed another 8% additional variance in the average severity of self-reported cognitive symptoms. When partial correlations were conducted, removing the effects of distress from the relationship between average severity

of self-reported cognitive symptoms and measures of neuropsychological impairment, the association between these domains of variables decreased.

DISCUSSION

The prevalence of neuropsychological impairment found in this study is consistent with other reports in the literature; however, to a great extent it is the selection of cut-off scores that determines the prevalence of cognitive impairment. The area of greatest neuropsychological impairment involved verbal and visual memory (more pronounced impairment upon delayed conditions), active concentration and ability to manipulate mental set, and difficulty initiating tasks. The memory impairment noted seems related to deficits in the storage and retrieval of information, as relatively less impairment was noted on measures of verbal fluency and visual-spatial ability. The differential impairment observed on Digit Span suggests greater impairment in the more active aspects of concentration requiring manipulation of mental set. It was surprising to find greater impairment on Trailmaking A than the more complex Trailmaking B, suggesting difficulty adjusting to the set of a new task and/or the effects of distress. When the effects of distress were partialled out from the relationship between the average severity of self-reported cognitive symptoms and Trailmaking A, the correlation decreased by approximately 60%.

While self-reporting as to the number of hard symptoms was found to be statistically independent of actual neuropsychological impairment, it was significantly associated with measures of psychosocial distress. These results are somewhat surprising in that cognitive impairment and neurological involvement have been most often reported in those who have progressed furthest along the HIV disease spectrum and are therefore most symptomatic. The results of this study suggest that the number of hard symptoms per se are not a good predictor of neuropsychological impairment.

Measures of psychosocial distress are associated with neuropsychological impairment, though more strongly with average severity of self-reported cognitive symptoms. Results suggest that the relationship between average severity of self-reported cognitive symptoms and neuropsychological impairment may be mediated by distress. Specificity was found between certain coping/distress measures and particular areas of neuropsychological deficit. Anger/Hostility and Emotional/Anger Control had mutually exclusive associations to areas of neuropsychological impairment. The presence of an angry and hostile mood is associated with impairments in memory (particularly visual) and the use of non-verbal imaging. The suppression of anger and emotion is significantly associated with decreased concentration, verbal fluency, problem solving, and verbal comprehension. These results suggest that either varied coping styles and moods effect cognitive functions differentially or that impairment in certain cognitive functions gives rise to particular stressors or coping styles.

CONCLUSION

Changes of mental status in seropositives have been attributed to both CNS disorders as well as other effects with neurological implications (e.g., metabolic disorders, nutritional deficiency, and medication side-effects). Results from this study suggest that a variety of psychosocial factors are associated with the average severity of self-reported cognitive symptoms and with measures of neuropsychological impairment in seropositives. One can not

simply assume that cognitive impairment reflects only organicity or dementia, as it may be due to a variety and mixture of biopsychosocial factors. Similarly, one can not assume an association between the presence of HIV-related hard symptoms and cognitive impairment, as they may be independent of each other. Further, given the significant associations between neuropsychological and distress measures, special consideration must be given to appropriate cut-off scores so that those who are impaired by distress and a failure in coping are not misidentified as neurologically impaired or demented. Identifying such false positives is likely to have a critical impact on HIV spectrum individuals, on ongoing research, and on the health care system. These findings lend support to the suggestion that prior estimates of neurological impairment and dementia in HIV spectrum persons may be overly inflated if conducted without consideration of distress or coping ability.

Measures of distress, coping and neuropsychological impairment may be significantly correlated because of (a) the effect of distress and failure of coping on neuropsychological performance and/or (b) subjects' reactions to awareness of their cognitive impairments. The lack of significant correlations between neuropsychological impairment and measures of depression, dejection, and hopelessness, in contrast to the numerous significant associations between neuropsychological impairment and other measures of distress and coping suggests that the classical notion of pseudodementia may need to be revised, at least in the case of HIV disease, to include distress states. Seropositive individuals are likely to experience stressors and tension that can exacerbate and overwhelm coping resources. A Stress Response Syndrome model may better capture the psychosocial turmoil and associated cognitive dysfunction experienced by symptomatic seropositives. Because the association between distress and neuropsychological impairment may vary along the spectrum of HIV illness, longitudinal assessment of these factors is advocated.

Research and clinical services that address persons manifesting or reporting cognitive impairment should include both neuropsychological and psychosocial evaluation. Health care providers should take such complaints of cognitive impairment seriously, as they may be associated often with debilitating levels of distress or failures in coping. Until the HIV-related psychosocial experience of seropositive persons and its potential role in cognitive impairment are better understood, researchers and clinicians would do well to cast a wide net to capture both objectively assessed and subjectively reported cognitive dysfunction, as well as related psychosocial factors.

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FIGURE 1

LEVELS OF OVERALL COGNITIVE IMPAIRMENT
DEPENDENT ON CUT-OFF SCORE
IN 102 SYMPTOMATIC SEROPOSITIVES

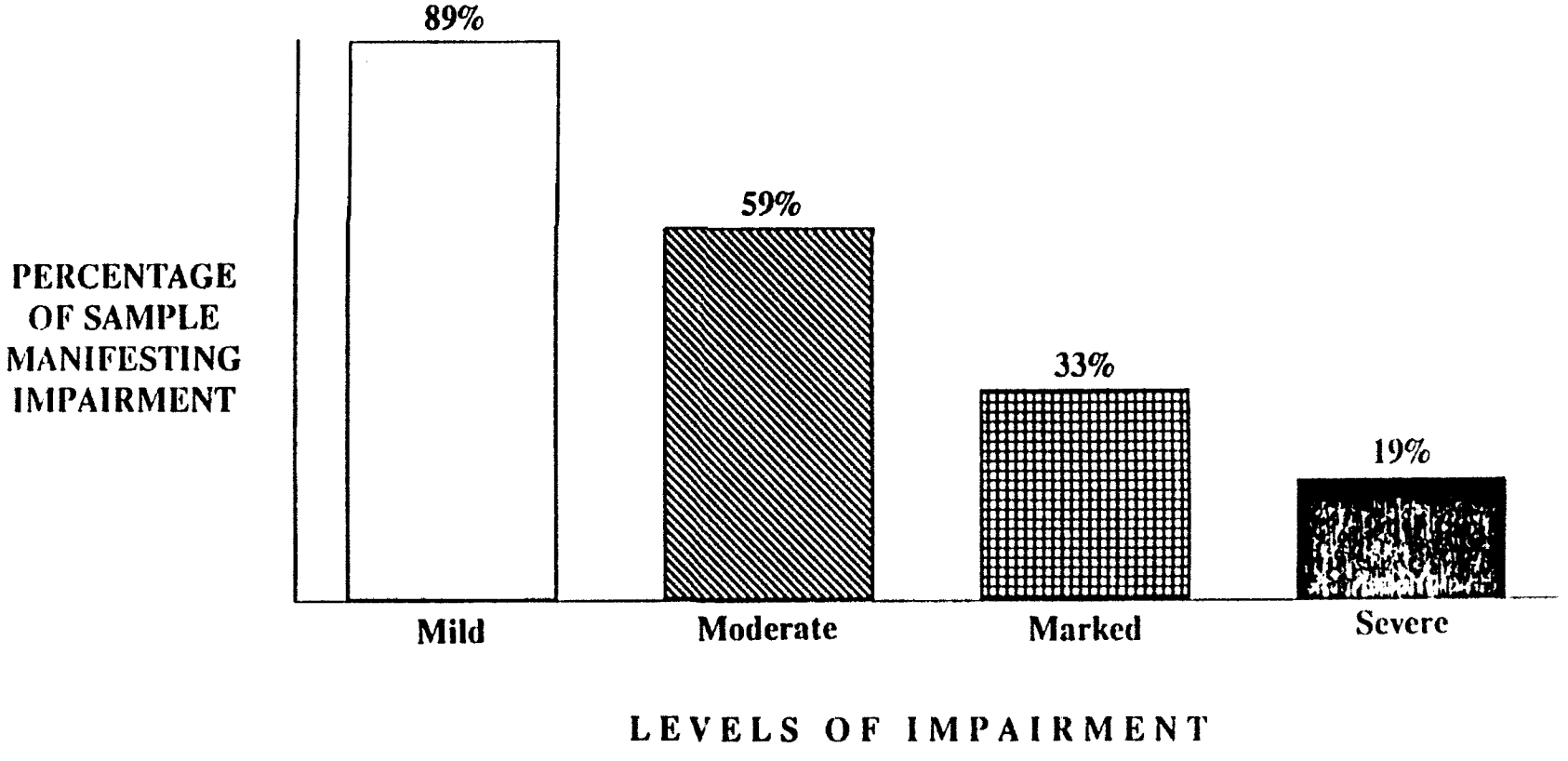

FIGURE 2

LEVELS OF IMPAIRMENT ACROSS NEUROPSYCHOLOGICAL TESTS IN 102 SYMPTOMATIC SEROPOSITIVES

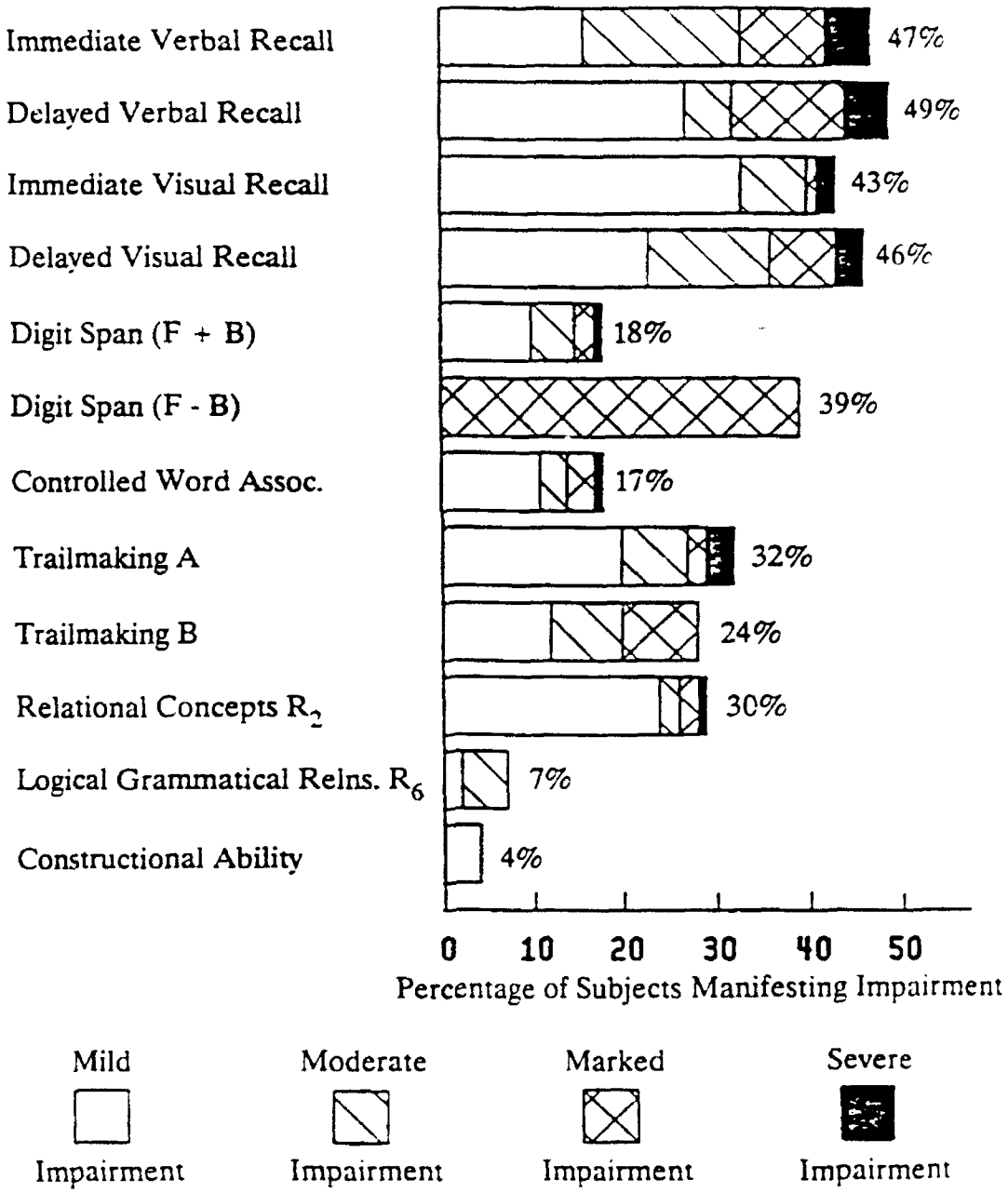

TABLE 1

SIGNIFICANT CORRELATIONS BETWEEN NEUROPSYCHOLOGICAL IMPAIRMENT AND MEASURES OF MOOD AND COPING

	Immediate verbal memory	Delayed verbal memory	Digit Span	Immediate visual memory	Delayed visual memory	COWAT	Trail-making A	Trail-making B	Receptive Speech R_2	Receptive Speech R_6
Anger-Hostility	.19**	.17*	NS	.23**	.32#	NS	NS	NS	.23**	NS
Emotional Control	NS	NS	.19**	NS	NS	.22**	.23**	.21**	NS	.17*
Anger Control	NS	NS	.21**	NS	NS	.16*	.19*	.29***	NS	.19**
Kobasa Hardiness	NS	NS	NS	-.27***	-.26***	NS	-.17*	-.17*	-.24***	-.23**
Emotional Support Available	NS	NS	NS	NS	-.23**	-.20**	-.24**	-.17*		
Marlowe-Crowne	NS	NS	.21**	NS	NS	-.31***	NS	.30***	.16*	NS

# $p < .001$ *** $p < .01$ ** $p < .05$ * $p < .10$

TABLE 2

CORRELATIONS BETWEEN SELF-REPORTED AND PSYCHOSOCIAL VARIABLES

	Beck Depress	Beck Hopeless	Dep-Dej	Ten-Anx	Confu-sion	Fatigue Inertia	Anger Hostil	Vigor Activ	Trait Anx	Kobas Hardi	Kobas Commit	Kobas Contr	Emot Contr	Anger Contr	Marl Crow	Emot Supp Avail
Self-report hard symptoms	.53#	.22**	.26***	.36#	.36#	.54#	.21**	-.40#	.35#	-.22**	-.22**	-.20**	.29***	.23***	.10	.08
Self-report cognitive symptoms	.43#	.03	.21**	.28***	.42#	.41#	.17*	-.21**	.42#	-.08	-.12	-.07	.18*	.08	.10	.11

# p < .001 *** p < .01 ** p < .05 * p < .10

TABLE 3

CORRELATIONS AND PARTIAL CORRELATIONS OF AVERAGE SEVERITY OF SELF-REPORTED COGNITIVE SYMPTOMS AND NEUROPSYCHOLOGICAL IMPAIRMENT

	Immediate verbal memory	Delayed verbal memory	Digit Span	Immediate visual memory	Delayed visual memory	COWAT	Trail-making A	Trail-making B	R_2	R_6
Self-Report Cognitive Symptoms	.18*	.29***	.26***	.13	.28***	.24***	.32#	.28***	.22**	.34#
Self Report Cognit. Symptoms Partial Correlation	.12	.24**	.15	.18	.26***	.31***	18	.15	.20**	.28***

# p < .001 *** p < .01 ** p < .05 * p < .10

COGNITION IN EARLY HIV INFECTION: POTENTIAL UTILITY OF REACTION TIME-BASED MEASURES

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HIV infects the brain early in the course of systemic infection, but HIV-positive patients do not tend to show deficits on clinical neuropsychological tasks until the infection is relatively advanced. We are studying the performance of HIV-positive asymptomatic patients and patients with ARC on reaction time-based measures utilized in cognitive neuropsychology. These measures are ideally suited for studying cognition in HIV infection, since tasks can be chosen which measure the primary cognitive disturbance (cognitive slowing) attributed to HIV infection and are less subject to ceiling effects than clinical neuropsychological tests.

The results of a preliminary study on decision-making speed in early HIV infection indicated that subtle cognitive slowing may be present in patients with early HIV infection. Both asymptomatic subjects and subjects with ARC showed a longer decision time (a greater discrepancy between simple and choice reaction time) compared to controls, suggesting a longer central information processing time.

These results suggest that reaction time based measures may have utility as potential markers of early CNS infection, both as possible outcome measures in clinical trials and as predictors of development of dementia and other neurologic complications. This hypothesis is currently under study in a longitudinal investigation of cognition in early HIV infection.

HIV: CURRENT ARMY POLICY AND TREATMENT CONSIDERATIONS

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Concern with acquired immunodeficiency syndrome (AIDS) and its precursor, human immunodeficiency virus (HIV), continues to grow as does the number of affected persons in the military and the United States as a whole. The purpose of this paper is to highlight current Army policy regarding the status of HIV positive soldiers, including confidentiality, discharge status, and other administrative issues. A complete discussion of the immunology, epidemiology, and medical assessment are beyond the scope of this article (the reader is referred to Batchelor, 1988; Bennett, 1986; or Curran, 1985; for elaboration within these areas). However, this paper shall focus on aspects of follow-up psychological treatment of the HIV positive soldier, including lessons learned from facilitating an HIV positive group.

ARMY POLICY REGARDING AIDS AND HIV

Beginning in 1985, new recruits were tested for the presence of HIV antibody. Those recruits found positive were not accepted for enlistment into the military. Testing for all active duty and reserve military personnel was begun in 1986. Policy for continued active duty has differed between the military branches. This paper will elaborate specifically on the Army's stance toward HIV positive soldiers.

To make appropriate dispositions regarding the fitness for duty of the HIV positive soldier, the Army medical department has utilized the classification system which was developed at the Walter Reed Army Institute of Research (WRAIR) (Redfield, Wright & Tramount, 1986). Soldiers were categorized by stages based on specific clinical criteria. This classification system was initially utilized as the determinate for remaining on active duty status. Briefly, those soldiers found positive on both tests utilized (enzyme-linked immunosorbent assay test, and the Western Blot), remained on active duty as long as the symptoms of AIDS were not present (Walter Reed stages 1-4). When clinical symptoms of AIDS became apparent (Walter Reed stages 5 and 6), the soldier was medically discharged. However, AR 600-110, the Army's current legal, medical, and personnel policies on HIV, details a modification in the initial disposition stance.

Under AR 600-110, soldiers will be tested at least every 2 years for HIV. To deploy or be stationed overseas, a soldier must have a negative HIV test current to within 6 months. In addition, HIV tests are given to all military personnel who are (a) admitted to an Army medical facility, (b) treated as surgical outpatients, (c) seeking care for sexually transmitted diseases, (d) enrolled in stages II and III of the drug and alcohol abuse rehabilitation program, (e) undergoing a premarital physical exam overseas, and/or (f) pregnant, with tests during their initial prenatal evaluation, and at delivery. The Army continues to utilize the same testing procedures (i.e., ELISA and then Western Blot).

Once determined to be HIV positive, the soldier receives close medical supervision. Typically, the preventive medicine department provides management and follow-up. The soldier receives preliminary medical and psychological counseling at the time he or she is informed of being HIV positive. The soldier is warned not to donate blood or tissues and of the need for regular monitoring of the virus. By regulation, commanders are required to reinforce this counseling with written orders. Soldiers are also directed to inform sexual partners that they have the AIDS virus and to take precautions to prevent its spread. In addition, the preventive medicine staff questions the HIV positive soldier extensively about how he/she might have contracted the virus. Information gathered during this epidemiological assessment interview is fed into a data base at the WRAIR. Military health authorities, when required, will report the soldier's identity to the appropriate civilian public health authorities. They will also notify persons named as sexual contacts of their possible HIV exposure or, where necessary or required, provide the names to the civilian health officials. Despite these reporting requirements, all information about HIV positive soldiers from initial screening results to the details of their interview remain strictly confidential within the medical management agency (Preventive Medicine and/or Public Health Agency). After the initial identification the soldier travels to the nearest of the six U.S. based medical centers for a thorough examination. Doctors look for specific symptoms and categorize the soldier into one of the six Walter Reed stages. Once the soldier's stage is identified, he/she receives a permanent medical profile and remains at his/her current duty station for at least one year before being considered for reassignment. At the medical center the HIV positive soldier undergoes a battery of physical and psychological tests. Miniscule doses of inactive disease proteins-tuberculosis, mumps, and tetanus among others, are injected directly under the skin on the forearm to test the responsiveness of the immune system. Blood is drawn for a T-helper cell count and to confirm that the soldier is indeed HIV positive. The HIV positive soldier returns to the medical center every 6 months for continued re-evaluation.

Whereas, in the past, the soldier's active duty status was determined on symptomology based on the Walter Reed stages, disposition recently has been determined by a T-helper cell count falling below 400 on two consecutive medical center follow-up visits. Given this status, the attending physician then conducts a medical board evaluation. If the board finds the soldier unfit, the case is referred to a physical evaluation board. The Army Physical Disability Agency determines if the soldier is, in fact, disabled. A soldier must be at least 30% disabled to be eligible for temporary disability retirement. Soldiers falling into this category are relieved of military duties and receive a portion of their base pay based upon years of service and percentage of disability, as determined by the board. The soldier is re-examined for return to duty within 18 months and may be re-evaluated at varying intervals for up to 5 years. If the board determines the soldier to be permanently disabled, he/she is medically retired. At that point soldiers receive a portion of their base pay, along with continued medical treatment at various Army medical centers or Veterans Administration hospitals.

In most cases, soldiers remain on the job as long as they are physically able. There are, however, important exceptions. Infected soldiers are barred from overseas duty and are reassigned stateside if already overseas. In addition, HIV positive soldiers may not be assigned to Ranger, Special Forces,

or COHORT units scheduled to rotate overseas or to recruiting, ROTC, or Military Enlisted Processing Command duty. They also cannot be assigned to some advanced military sponsored education programs.

TREATMENT CONSIDERATIONS

The following psychologic concerns and management issues are offered based on the author's one and one-half years of experience in working with an HIV soldier support group.

Confidentiality

One of the most important and continuing concerns of one member of our group was the issue of confidentiality. Many group members expressed irritation, frustration, and, at times, rage at various members of their company becoming privy to information indicating that they were HIV positive. While the HIV program is tightly controlled, leaks unfortunately occur. What becomes most damaging to the soldier is the command chain handling the information too casually with the soldier's peer relationships subsequently affected. Many peers adopt a hands-off attitude, which may result in the dissolution of the relationship at a time when the HIV positive soldier most needs support. Leaks or breaches of confidentiality notwithstanding, continual appointments at Preventive Medicine and periodic, unexplained, medevacs to a nearby MEDCEN are also viewed by some HIV positive soldiers as tacit markers of their status which, many believe, peers can "read." Social isolation and fear of career-limiting and/or career-terminating implications were the biggest concerns with respect to breaches of confidentiality. When considering an untimely leak of information and his peers subsequent reactions, one soldier compared his status to that of a leper.

Crisis Points

The author's experience has indicated that there are two points in time most likely to precipitate a crisis in the HIV positive soldier. The greatest possibility for a crisis occurs at the time of initial notification. A second, although somewhat more limited potential for crisis, occurs at those times immediately before, and after, a periodic checkup at the MEDCEN. At the time of initial notification, many soldiers are simply taken by surprise. The news may throw them off balance, their psychic equilibrium temporarily disrupted. HIV positive soldiers at this point are very vulnerable. Many contemplate suicide; almost all consider death as an ultimate end state of their new found status. Others may become depressed and temporarily unable to function at their typical level. Some, in an effort to deny the illness or, perhaps, in a too hasty attempt to tie up loose ends, accumulate large debts as they spend and indulge without restraint. Just prior to the periodic MEDCEN follow-up, crises may also develop. The soldier who is able to function at pre-morbid levels due to a strong denial defense may find a decreased ability to cope in the face of an impending MEDCEN visit. Soldiers anticipate the results of these MEDCEN visits in a very ambivalent fashion. They can be very hopeful for results indicating that their T-cell counts have not deteriorated, that new medicines have become available, and that peers have not progressed. However, they also fear the implications of falling T-cell counts, fear hearing news regarding peers' progressions, and dislike grappling with the often unexplained gap between their "sick" status and their subjective feelings of health. Appropriate psychological intervention can be extremely beneficial at these crisis points. It is suggested that a psychological consultant work in conjunction with the preventive medicine department when initial notifications

are made so as to be able to offer immediate crisis intervention (i.e., hospitalization for suicidal patients, etc.). Most soldiers are overwhelmed and make inappropriate conclusions regarding their status. It is, therefore, imperative that the treatment/notification team be very familiar with the basic facts of the disease. Providing the soldier with facts and reaching an understanding regarding the nature of the disease process offers the soldier a semblance of control. When appropriate (i.e., when the soldier agrees), it is very useful to have a current member of an HIV support group nearby for a newly informed HIV soldier to talk with. Seeing another HIV status person who has been through the process and is coping in a healthy manner is an extremely positive and supportive model. An offer to attend an HIV support group may also be most opportunely delivered by a current HIV support group soldier at this time.

Interventions

The health care professional treating the HIV positive soldier in either a support group format or in the various outpatient or inpatient modes should be prepared for initial caution or distrust on the part of the HIV soldier. While not all HIV positive soldiers are active homosexuals or drug users, some do feel as if they have something to hide and are unsure as to how the health care professional will handle sensitive information. A period of cautious testing and examining may ensue during which the HIV soldier assesses how much may be revealed to the health care provider. During this initial trust building phase, this author has utilized the more senior support group members as the primary means for education, confrontation, and support. As trust is established, the role of the health care professional is to observe and facilitate the natural process of grieving. The HIV soldier should be encouraged to utilize coping skills that have worked well in the past. Interventions by the health care professional become necessary when a group member's denial impedes some aspect of appropriate functioning or impedes health care, when a group member becomes depressed and functioning deteriorates, when a group member begins to act out his anger or fear in a harmful fashion, and to discuss final plans and requests when death becomes imminent.

Support Systems

Many HIV positive soldiers affirm a feeling of social isolation. This may in part be due to previously mentioned breaches of confidentiality, to guilt, to impersonal attitudes conveyed by medical staff, or to self-imposed celibacy. Some group members faced the difficult task of revealing to their family past or current behaviors which were previously unknown to the family. In more than one instance such revelations by the HIV soldier resulted in the dissolution of the familial relationship. In the face of these feelings of growing social isolation and of the losses of old support systems, an HIV soldier is typically in great need of a viable and "healthy" support group that the health care team may offer. "Healthy" is emphasized, in that alternative groups exist which may, in a sense, compete for the HIV soldier's identification, but at some psychic cost.

Death, Dying and Related Issues

All HIV soldiers may be considered to be in some phase of the grief process. By far, the majority of the soldiers seen in the HIV support group run by this author were in the anger or denial stages. Denial may be seen in various behaviors, including the adoption of rigorous physical training programs and self chosen vitamin treatments. Anger may be expressed at the

Army, at hospital staff, and at family and friends via noncompliance with rules and regulations, through angry outbursts, or through more serious acting out behavior.

As the HIV soldier becomes more aware of, and in tune with the disease process, he/she may express an increased sense of physical vulnerability. For example, HIV soldiers may complain of being at the mercy of anyone whom they come in contact with who has a cold.

The HIV soldier may also express increasing concern with body image or appearance. Physical changes are common in the disease, including weight loss, skin discoloration, and in the more extreme stages, disfigurement by tumors and hair loss. The HIV soldier may feel conspicuous due to alterations in appearance or may become obsessed with examining the body for signs of new lesions which may signify a change in the HIV status.

Management Issues

As aforementioned, key roles of the health care professionals are providing information and facilitating the grief process. It is imperative that the health care professionals be honest with themselves regarding their feelings about working and caring for HIV positive soldiers. The soldier will perceive if there are disapproving attitudes from the health care professional and may, as a result, avoid the health care system. Additionally, the soldier is likely to react to an overly tolerant or condescending attitude expressed by the health care professional by being hesitant to discuss ambivalent, if not negative, feelings regarding homosexuality, promiscuity or drug abuse. It is recommended that the health care professional follow the lead of the HIV soldier, allowing open and non-judgmental discussions of issues and recognizing the soldier's positive and negative feelings which may warrant further discussion.

Finally, health care professionals must reconcile themselves to the fact that HIV soldiers generally do not get better and typically get much worse. The staff must guard against common depersonalizing defenses medical staffs use to deal with their contacts with chronically ill patients. Lastly, the health care professional must monitor his/her identifications with HIV positive soldiers. Commonalities in age, sex, or similar military experiences may increase a sense of identification which the health care professional may find quite distressing. Inappropriate reactions to these overidentifications may include heroic overinvolvement or distancing. The health care professional may find discussing his/her feelings with fellow staff members to be useful in identifying such tendencies and handling them in an appropriate fashion.

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EMERGENT INTERACTIONALISM & MULTIMODAL THERAPY: A BIO-SOCIAL-COGNITIVE-EXISTENTIAL PARADIGM OF MENTAL HEALTH ASSESSMENT AND TREATMENT

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Mental health services are increasingly multidisciplinary and thus paradigmatically divergent. This diversity creates a need for a conceptual framework which integrates the empirical and theoretical orientations of biomedical psychiatry, neuropsychology, social systems, cognitive psychology, object relations psychology, and existential/religious pastoral care. The implications of the "emergent interactionalism" paradigm are presented within a multidisciplinary multimodal model--BASIC-BIS. Assessment and treatment methodologies are discussed in reference to the hierarchical dimensions of Biomedical-neuropsychological functions, Affective-organismic states, Sensorimotor-environmental schemata, Interpersonal developmental schemata, Cognitive-Behavioral patterns, Insightful-metacognitive processes, and Spiritual/existential experience. Each of these mental dimensions are viewed as causal constructs and form the integrative framework of mental health and cognitive-behavioral functioning.

Multidisciplinary Practice

Many mental health practitioners and administrators have a difficult time integrating medical, social, psychological, and pastoral models of mental health because each of these professional disciplines is invested in strong paradigmatic traditions. As Kuhn (1970) stated, "proponents of competing paradigms practice their trades in different worlds (p. 150)." Likewise, Army physicians, psychologists, social workers, and clinical chaplains, coming from a diversity of paradigmatic training backgrounds, approach mental health problems with significantly different perspectives. If these perspectives are reductionistic, interdisciplinary cooperation may well be hindered unnecessarily.

Mental health models have in fact been dominated by reductionistic models--biomedical, social systems, behavioristic, religious/existential--in the past. While helpful in explaining some specific etiological factors, reductionistic models inadequately explain the complexity of mental health and suffering. In order to form more comprehensive paradigm of mental health practice, we must have a universally recognized scientific framework of mental health problems and solutions (Kuhn, 1970). The modern empirical paradigm of emergent interactionalism (Sperry, 1986, 1989) provided this much needed framework. It provided the necessary theoretical breadth and heuristic power to integrate diverse medical, social, behavioral, cognitive, and existential/religious factors effecting mental health phenomena.

A comprehensive multidisciplinary mental health framework is needed. At the present time, a diversity of specialized practitioners have subdivided mental health and clinical practice into several classifications of problems and solutions. The biomedical, psychological, social, and pastoral clinicians, in an attempt to define the boundaries, methods, and tools of their

professional and academic domains, have neglected the theoretical diversity and breadth necessary for an integrative paradigm of mental health. For example, Engel stated, "I contend that all of medicine is in crisis and, further, that medicine's crisis derives from the same basic fault as psychiatry's, namely, adherence to a model of disease no longer adequate for the scientific tasks and social responsibilities of either medicine or psychiatry (1977, p. 129)." Engel (1977) recommended a biopsychosocial model of health and disease. While acknowledging explanatory power of reductionistic explanations, he exhorted clinicians not to neglect non-biological circumstances that impact on biological processes. The need for a more comprehensive model of mental health has also been recognized by the APA's National Conference on Graduate Education in Psychology which recently recommended a focus on "new ways of integrating various aspects, part-processes, subfields, level of analysis (biological, psychological, and sociocultural), and methodologies of psychology, including the integration of practice and science (APA, 1987, p. 1084)." The unitary approach to mental health may also involve pastoral diagnosis and care (Ivy, 1988). The multidisciplinary team of Hyer, Jacob, and Pattern (1987) argued that many later life patients need to be assessed and treated from an bio-psycho-social-spiritual perspective.

Recently, Tjeltveit (1989) discussed social and political forces which have sustained the reductionistic models which have dominated the assessment and treatment practices within the mental health field. While specific professions rightfully claim distinctive competencies based on socially established professional training protocols and paradigmatic traditions, he argued that few mental health problems can be accurately diagnosed or comprehensively treated within the boundaries of specific professional models. Often important etiological or causal factors are missed because practitioners working from specific paradigmatic orientations are not trained to perceive the factors contributing to a person's distress (e.g., Engel, 1977; Hyer et al., 1987; Tjeltveit, 1989). Since there is no multidisciplinary consensus about the nature of mental health and distress, the debate continues about competency, responsibility, privilege, reimbursement, and other clinical or political decisions. As Tjeltveit (1989) stated, "Careful reflection on the merits of competing models may be helpful in these debates" (p. 5). I suggest that the emergent interactionalism paradigm and the BASIC-BIS approach provide a much needed step towards a unified, multidisciplinary model of mental health.

The BASIC-BIS approach allows for professional autonomy while providing mental health practitioners with an integrated framework which can direct referrals and multidisciplinary treatment. This approach incorporates once competing schools of mental and behavioral science into a hierarchy of reciprocally determined, emergent subsystems of the unified human system (Polanyi, 1969; Sperry, 1986, 1989). The BASIC-BIS paradigm legitimizes mentalistic phenomenon, subjective experience, thoughts, beliefs, feelings, sensations, and images and asserts that they are "ineliminable causal constructs in the scientific explanation of brain function and behavior (Sperry, 1989, p. 607)."

Emergent Interactionalism

The BASIC-BIS approach is based on recent developments in post-critical scientific philosophy, specifically the emergent interactionalism paradigm. This paradigm asserts that mental states, cognitive-behavioral patterns, and subjective experiences are partially determined by emergent biological, social, psychological, and existential subsystems. Lower level (micro) subsystems

refer to biological, neuropsychological, and some environmental structures and functions. Micro subsystems determine the potential of a person's emergent mental and behavioral structures and functions. Macro subsystems, on the other hand, are formed by emergent, complex gestalts of micro subsystems. Once developed, macro subsystems reciprocally determine, mediate, or effect innate variability allowed within micro structures and functions. Emergent interactionalism welcomes micro level explanations without succumbing to reductionism.

Mental health practitioners practicing in multidisciplinary settings need to recognize that an explanation of micro factors contributing to mental disorder or distress need not invalidate or diminish higher level-macro--explanations. An illustrative example of the qualitative nature of emergent interactionalism perspective of differing levels of explanation is MacKay's (1966) analogy of neon signs. He argued that we can understand a neon sign through the structural and functional analysis of how filaments work, how electrical current goes through the tubing, and how atoms are broken down into electrons with positive ions going in the opposite directions to maintain beautiful colors, but this micro analysis does not realize that the sign says "Joe's Bar & Grill." The meaning of the sign cannot be reduced to the physical and chemical structures and functions of the tube. Likewise the meaning of a behavior cannot be totally understood or reduced to the sum of the biopsychological drives and environmental conditions impacting on that behavior.

Michael Polanyi's (1967) analysis of determinants of human language was another good illustration of how hierarchical levels of structure and function reciprocally determine each other. While written language is dependent on existence of phonetic structures, the emergent structures and principles of vocabulary transcend the explanatory principles phonetics. In fact the development of word meanings and structures determine phonetic structures (e.g., the formation of a new word through new biosocially available phonetic combinations). When gestalts of words are used, grammatical structures and principles emerge. These new gestalts in turn determine meaning of words and even effect phonetic structure of words (e.g., verb tenses). Within the general grammatical structures and functions, a new level of complexity emerges. Style (i.e., poetic, business, or academic writing) is dependent on general grammatical structures and principles, but also determines the variables of grammar to create more macro level effects of emotional tone, cognitive-behavioral response, or intellectual technology. Contextual factors or the writer's intent also determines the style, grammar, and vocabulary used in written prose. While phonetics, vocabulary, and grammar determine the boundary conditions of the written language, the macro, more complex, principles of style and contextual intent marginally control micro syntactic variability.

A thorough discussion of the historical development of the emergent interactionalism paradigm within the context of psychological science is beyond the scope of this paper. But the interested clinician can find evidence in mainstream scientific literature of a shift in the behavioral sciences away from the more dominant, rigorously objective, behaviorist, environmentalist, or biomedical doctrines to a new explanatory framework that accepts cognitive processes and the subjective as causal constructs (e.g., Dember, 1974; Engel, 1977; Kantor, 1979; Klee, 1984; Segal & Lachman, 1972; Skinner, 1985; Sperry, 1986, 1989). Until recently, the sciences of psychiatry and psychology have

been dominated by reductionistic paradigms of human phenomena. Psychodynamic paradigms reduce all mental and behavioral phenomenon to innate drives and the biochemical forces. The behavioralist paradigm denies the scientific validity of cognitive constructs and reduces behavioral patterns to conditioned and operant environmental stimuli. Each of these paradigms reduced human phenomenon to nothing-but-isms by asserting that human cognition and experience is an epiphenomenon of unconscious forces, innate drives, or complex environmental stimuli. Over the last two or three decades, however, there have been signs of a weakening of the radical reductionistic schools of human behavior within the mainstream, scientific community. Reductionistic models are being replaced by more interactive paradigms of human phenomena. An example is Bandura's theory of reciprocal determinism. Bandura (1978) defined psychosocial functioning as a "continuous reciprocal interaction between behavioral, cognitive, and environmental influences" (p. 344). More recently, medical and non-medical clinicians have begun to apply the interactional paradigm in practice and science (e.g., Freeman, Simon, Beutler, & Arkowitz, 1989; Horowitz, 1989; Horowitz, Marmar, Krupnick, Wilner, Kaltreider, & Wallerstein, 1984; Matarazzo, Weiss, Herd, Miller, & Weiss, 1984).

Instead of seeing the mind as the epiphenomenon of neurology or social processes, the emergent interactionalism perspective recognizes that macro factors of perception, cognition, and metacognition can supersede the less complex micro forces in determining mental disorder and well-being. This is not to say that biological, unconscious, and environmental forces do not determine emergent mental structures to a great extent. Micro forces effect the basic mental structures and continually effect emergent potentials and functions, but once emergent, cognitive structures develop, they interdependently interact within the unified, structural hierarchy to determine mental health. Macro and micro structures and functions reciprocally determine the human beings' biological processes, cognitive/behavior patterns, and subjective experience.

The BASIC-BIS approach delineates seven broad levels of emergent structure and function. There are finer delineations of emergent structures within the human system. In fact, Polanyi (1969) saw the human system as a series of emergent subsystems which all interact, horizontally and vertically, within the whole. The micro levels of the human system include the inanimate structures and principles of time, space, energy, and matter. These cosmological/ecological factors leave open the possibility of more complex emergent structures. In and through this basic level of existence, animate human structures (subsystems) of biochemical principles, gradations of cell physiology, multi-cell structures (organs), integrated multi-cell systems (autonomic nervous system, central nervous system, cardiovascular system, etc.) emerge. Together, these subsystems form the gestalt of the human organism with its psychosomatic parameters of drive states, mental states, and bio-psycho-stress states. With adequate social and environmental support and stimulation, cognitive schemata (Neisser, 1976), cognitive-behavioral patterns (Bandura, 1978; Tataryn, Nadel, & Jacobs, 1989; Rosen, 1989; Dowd & Pace, 1989), and metacognitions--self monitoring cognitive-behavioral patterns emerge (Flavell, 1979; Meichenbaum, Burland, Gruson, & Cameron, 1985). The crux of BASIC-BIS approach is the understanding that the human being is an integrated organism with interdependent, emergent levels of structure and function that reciprocally determine mental health.

Summary. Traditional reductionalistic causal thinking which underlines much of modern science has not proven adequate to the task of understanding human behavior, mental health, and subjective experience. In the past two or three decades, post-critical scientific philosophy has integrated influences of existentialism, phenomenology, gestalt psychobiology and systems thinking with rigorous empirical science (Sperry 1986, 1989). The outcome of this line of investigation has been the formulation of a paradigmatic framework which can accommodate a diversity of theoretical orientations which have developed out of the diversity of mental health treatment traditions. Emergent interactionalism recognizes the hierarchical and systemic nature of human behavior, and that emergent structures and functions cannot be reduced to or fully explained by the sum of micro structures and functions. Once they develop, emergent structures and functions reciprocally determine bio-social-cognitive-existential processes of the unified human person.

The BASIC-BIS Approach to Multidisciplinary Multimodal Practice

As stated above, I will delineate seven subsystems of the integrated human system which reciprocally determine mental health and behavior. While we delineate the interdependent, emergent subsystems, we must recognize that the human subsystems work in synthesis to form a multilevel dynamic equilibrium--an integrated whole. The seven interdependent subsystems include: biomedical, affective-organismic, sensorimotor/environmental, interpersonal-developmental, cognitive-behavioral, metacognitive, and existential/spiritual levels of functioning.

Before discussing the specific subsystems of BASIC-BIS approach, I would like to present Lazarus' (1981) BASIC-ID approach in order to contrast it to the BASIC-BIS approach. In the preface of his book, "The Practice of Multimodal Therapy," Arnold Lazarus asserted:

> Multimodal therapy is not a (psychotherapeutic) system; it is an approach that provides humanistic integration, systematization, and a comprehensive "blueprint" for assessment and therapy. It deliberately avoids the pitfalls of theoretical eclecticism while underscoring the virtues of technical eclecticism. (Lazarus, 1981, p. ix)

For Lazarus, technical eclecticism is the matching of specific treatment modalities to the specific conditions effecting the client. Later on, he discussed the rationale and method of his multimodal approach to therapy stating:

> The aim of multimodal therapy is to reduce psychological suffering and to promote personal growth as rapidly and as durably as possible. We avoid psychiatric labels where possible and strongly emphasize the need for therapeutic pluralism. In stressing that few, if any, problems have a single cause or unitary "cure," we recognize that human disquietude is multileveled and multilayered. But, instead of making these observations in global or undifferentiated terms, practitioners of multimodal therapy dissect human personality into discrete but interactive modalities or dimensions. By assessing each individual through each of these specific modalities, and then

examining the salient interactions among them, one is better able to achieve a thorough and holistic understanding of the person and his or her social environment. (Lazarus, 1981, p. 13)

While Lazarus attempted to avoid the pitfalls of theoretical eclecticism, he appeared to be reasoning from a cognitive-behavioral tradition. He admitted to the inadequacy of radical behavioralism and suggested that human problems are multileveled and involve complex etiologies. His BASIC-ID approach endorsed the social learning perspective which saw varying dimensions of psychological functioning as reciprocally determining human behavior.

In contrast, the BASIC-BIS approach emphasizes theoretical integration and accommodation. This approach offers an assessment and intervention model that accounts for the effectiveness of several once theoretically diverse modes of therapeutic intervention. When delineating the hierarchical factors contributing to mental distress, the BASIC-BIS practitioner may conclude that there are several micro and macro factors effecting a person's bio-social-cognitive-existential condition. The first step in making such judgments is a comprehensive screening of the BASIC-BIS hierarchical subsystems. This assessment can be conducted in a multidisciplinary setting by any practitioner who has adequate mental health training and a basic understanding of the BASIC-BIS approach.

Biomedical. The first and most micro subsystem of the BASIC-BIS approach is the biomedical level of organization and functioning. All human behavior is dependent on biological and neurological structures and functions. Mental activity and behavior is dependent on the biomedical integrity of the physiochemical processes that support and enable more evolved, emergent organs and processes of the human body.

Certain biomedical or neuropsychological conditions greatly impact mental health (Heilman & Valenstein, 1985; Grant & Adams, 1986; Reid, 1989). Neurological lesions caused by trauma, biochemical poisoning, or physiological disease will limit the development of, or interfere with the current functioning of, emergent levels of human cognition and behavior (Kolb & Whishaw, 1985). Chronic substance abuse or dependency, cardiovascular disease, transient ischemic attacks (TIAs), and strokes can also lead to brain tissue damage which decreases emergent potentials that once allowed for macro level cognitive-behavioral-patterns. Mental retardation caused by genetic and/or environmental determinants will limit the developmental potential and cognitive abilities associated with mature cognitive functioning. Other biomedical conditions involving disease, nutrition, medications, and organ system failure can also greatly impact mental status (Reid, 1989). The BASIC-BIS approach screens and interviews for signs of any biomedical determinants of mental status (Othmer & Othmer, 1989).

Because micro level determinants effect the potential and functioning of macro level functioning, any reported and/or observed biomedical signs need medical consultation and/or treatment even if macro level determinants are judged to be significant contributors to the person's mental health condition. It is a general principle of the BASIC-BIS approach to prioritize the treatment of micro level determinants in order to insure the biomedical health of the individual before attempting more macro levels of intervention. This priority also protects the privacy and freedom of macro level functioning by ruling out any biomedical determinants that could resolve the person's mental health

symptoms. This priority suggests that the treatment of chemical detoxification occur prior to the administration of macro level interventions involving social support and cognitive-behavioral strategies which are helpful in preventing relapse (Marlatt & Gordon, 1985). It suggests the treatment of biomedical causes of depression in conjunction with macro level supports and interventions. While biomedical etiology needs to be given top priority multidisciplinary mental health practice, this priority does not suggest that all biomedical or mental health symptoms and signs are indicative of biomedical etiology or treatment. In fact, the exclusive medical treatment of biomedical signs which are primarily determined by macro level factors, such as grief, may be contraindicated (Engel, 1977; Hyer, et al., 1987). Therefore, any biomedical screening of mental or physical disorder necessitates more macro level assessments.

Affective/Organismic. The second, emergent level of the BASIC-BIS approach is the organismic level of structure and functioning. The sum of biomedical subsystems creates an organismic whole, which is capable of psychosomatic stress responses, drives, and emotional states. Each human organism is distinctive, having unique psychosomatic and neuropsychological traits, abilities, limitations, and potential risks.

Organismic structure and functioning are dependent on biomedical subsystems and their environmental context. The person's organismic potentials are reciprocally determined by environmental influences and innate biogenetic factors. While genetic potential is a stable determinant of organismic structure and functioning, environmental factors continually impact on the status of organismic structure and functioning. Indicators of the person's general organismic mental status include: neuropsychological and intellectual abilities; energy and affective states; attention and memory functions; drive states of hunger, activity, sleep, touch, and sex; and the capacity to endure biopsychosocial stress. Each component is influenced to a varying degree by biomedical, environmental, and cognitive-behavioral factors.

Selye's (1976) notion of stress was an example of organismic structure and functioning. Cognitive-behavioral, social, and biochemical-physiological stressors can reciprocally determine organismic stress responses. The person's stress response and affect are good examples of how the emergent properties of cognition and behavior interact with environmental stimuli and biomedical subsystems to reciprocally determine organismic, psychosomatic states. For example, cognitive-behavioral styles learned from environmental influences effect behaviors of consistent aerobic exercise. These behaviors in turn effect organismic mental states (decreased depression) and constitutional variables (decreased body fat). If this person's cognitive and environmental conditions continue to effect consistent behavioral health habits, biomedical changes (decreased blood pressure and blood lipids) will postpone the person's risk of stroke and heart failure, which in turn enables micro neuropsychological and macro cognitive-behavioral functioning.

Certain conditions may be best understood as being disorders of the organismic level....Endogenous unipolar and bipolar depression, schizophrenia, and schizoaffective disorder are conditions that are reciprocally determined by biological, environmental, and emergent psychosocial factors. Organismic signs of low energy, depressed mood, restricted affect, labile affect, neuropsychological signs, and vague physical symptoms can be indicative of stress, biomedical disease, or neuropsychological injury. Organismic signs

need to have biomedical and neuropsychological determinants treated, or ruled out, in conjunction with the assessment and treatment of psychosocial etiology.

Disquieting emotions/feelings, pain, tension, and psychosomatic symptoms are the basic indicators of general organismic distress. Depending on the nature of the person's condition and individual's perceptual style, he or she may present and/or report emotional or somatic symptoms through cognitive or somatic complaints. The BASIC-BIS approach recommends that psychosomatic states be assessed via somatic parameters (physical complaints/symptoms, galvanic skin response, skin temperature, heart rate, and electromyogram, etc.) and cognitive-behavioral parameters (perceptual sets, cognitive-behavioral styles, and precipitating stimuli associated with emotional or painful experiences). Disquieting psychosomatic states are best viewed as dynamic biopsychosocial states which impact, and are impacted by, a person's micro and macro subsystems.

Sensorimotor/Environmental Schemata. Human existence is as much a social existence as it is a biological existence. The human organism develops in and through a complex environmental system which includes other human organisms. We come into existence through a series of biopsychosocial interactions, through an evolving sociocultural context, and network of significant interpersonal relationships. If the person receives the necessary stimuli from his or her environment, cognitive-behavioral development will occur. These environmental stimuli impact on a person's neuropsychological structures and functions to form dynamic schemata.

Schemata are sensorimotor structures and functions. They are neuropsychological dynamic equilibriums that direct perceptual explorations, sample potential available stimuli, and assimilate/accommodate environmental stimuli (Neisser, 1976). These schematic structures emerge out of the interaction between environment stimuli and neuropsychological potentials. Once they emerge, schemata anticipate, or are sensitive to specific types of stimuli. The environment activates schemata through the senses which in turn direct continuous exploration of objects. Other schemata involving other senses and behavioral responses may be recruited to explore the object in its environment. The result of such an interaction is the experience of the object through parallel sensorimotor processes. Exploratory responses to stimuli provide additional stimuli to the organism regarding the object.

The emergent sensorimotor processes form the foundation for all levels of perception. Perception is the assimilation or accommodation of stimuli via pre-existing schemata. The perceptual interaction between environmental stimuli and the person's schematic structures lays the foundation for all future emerging cognitive-behavioral patterns. Throughout development, this interactive process will involve the emergence of continuously more complex schemata gestalts which will increasingly impact on person's biological, affective, social, cognitive and behavioral functions (Rosen, 1989).

Interest in the scientific construct of schemata has been revived through cognitive psychology movement (Freeman et al., 1989; Rosen, 1989). Bartlett (1932) suggested that a schema is the active, organized event within which new experiences are influenced by those previously experienced (a construct of memory) and are then connected by some common aspect (i.e., emotional states

[Bower, 1981; Beck, 1989], time, person, or place). Neisser (1976) described the perceptual-behavioral role of schemata stating:

> A schema is not merely like a format; it also functions as a plan....Perceptual schemata are plans for finding out about objects and events, for obtaining more information to fill in the format....Information that does not fit such a format goes unused. Perception is inherently selective....The information that fills in the format at one moment in the cyclic process becomes a part of the format in the next, determining how further information is accepted. The schema is not only the plan but also the executor of the plan. It is a pattern of action as well as a pattern for action. (p. 55-56)

As Neisser suggested, schemata are interactive with the environmental stimuli. Sensorimotor gestalts of micro-neuropsychological functions continually assimilate or accommodate a person's perceptual responses to the precipitating social/environmental stimuli (Rosen, 1989). With maturation complex schemata integrate groups of less complex schemata to form schematic hierarchies.

Down and Pace (1989) reviewed three major categories of complex schemata: (a) prototypes--central tendency schemata are abstracted, prototypical representations of knowledge (i.e., birdness, houseness, self-other concepts); (b) frames--template schemata are specific structures that serve as cognitive filing systems for organizing and classifying knowledge (i.e., time, emotion, meaning); and (c) scripts--procedural structures which provide rules for sequences and patterns of cognitive/behavioral/emotional activity in the internal and external psychosocial environment. In addition to the above classifications, Neisser (1976) described a fourth type of schemata--cognitive maps--which form spatial images or kinesthetic feels of self and others in the environment. Together these types of schemata form the perceptual-behavioral foundation from which all cognitive-behavioral patterns emerge. As Meichenbaum and Gilmore (1984) stated, schemata function as silent assumptions which direct both covert and overt courses of action.

If affect is understood as both a product and a precipitant (stimuli) of perception (Lazarus, 1989; Zajonc, 1984), one might purpose that emotional states can be initially evoked through internal or external stimuli. These stimuli are then accommodated and/or assimilated into more complicated forms subjective emotional experiences involving person, place, emotion, and causal attributions (Bower, 1982; Lazarus, 1989; Neisser, 1976). Like any other stimuli, affective states are associated with internal and external stimuli, and are either assimilated or accommodated into emerging perceptual-behavioral schemata. As will be discussed below, these emotional loaded schemata can form the basic structures that develop or emerge into cognitive-behavioral style's emotional tendencies.

BASIC-BIS assessment seeks to understand the level and quality of sociocultural/environmental stimulation impacting the client's foundational perceptual-behavioral schemata. Psychometric and clinical interviews will assess the historical social/environmental reinforcers, sociocultural background, and chronic/acute stressors which might be associated with the patient's reported condition. The complexity of sociocultural stimuli can also be delineated into a hierarchical structure. Micro stimuli (i.e., light or noise) and macro stimuli (i.e., mass media and human communication) are

constantly conditioning the person. While social/environmental stimuli will always shape human phenomenon independently through classical and operant processes, each organism will develop unique schemata which will mediate and reciprocally determine his or her cognitive-behavioral functioning and mental health.

The assessment and enhancement of the person's historical environmental reinforcers and social support network (both quality and quantity) is essential for the long-term efficacy or any cognitive-behavioral, or insight oriented therapy. These determinants are important boundary conditions effecting the maintenance of mental health and cognitive-behavioral functioning. Environmental factors can be enhanced through micro or macro strategies which impact on social conditions precipitating perceptual-behavioral schemata. The best cognitive-behavioral interventions programs are doomed to failure, however, if a person's environment is not supportive of the process and maintenance of change. For instance, teaching an abused spouse or adolescent teen-ager how to cope with the anxiety associated with an abusive family member is not an acceptable clinical practice or goal unless adjunctive social systems and judicial interventions are administered simultaneously. Similarly, relapse prevention work with ex-addicts is likely to be ineffectual if addicts insist on living with significant others who use. While perceptual-behavioral schemata can help regulate the effects of the environment on psychosomatic states and cognitive-behavioral patterns, social support and environmental reinforcers are power determinants of mental health and functioning.

Interpersonal Developmental Schemata. The developmental construct of schema was developed in Piaget's detailed descriptions of cognitive functioning in children and adolescents. His system of thought is compatible with the findings of Spitz and Mahler and the object relations schools which delineate the stages of cognitive, social, and emotional development that occur in and through the mother (primary care giver)-infant relationship (Hamilton, 1988). The developmental model of the object relation's school suggests that critical stages of interpersonal development occur during the first 3 years of life. The BASIC-BIS approach can assimilate the object relation's school and/or other, recent psychodynamic schools within the interpersonal developmental level of functioning. Interpersonal, developmental schemata emerge out of social interactions, and these schemata form the foundations of self-knowledge and self-regulation.

While there are significant theoretical differences in psychodynamic schools of personality development, the BASIC-BIS approach allows the practitioner to integrate his or her preferred psychodynamic theory within the classification of interpersonal developmental schemata (IDS). If BASIC-BIS assessment reveals a history of interpersonal difficulties involving evidence of dysfunctional family systems (i.e., significant substance use, physical, sexual, or emotional abuse, and/or chronic mental illness in one or both guardians) it will be more likely that the patient will show signs of dysfunctional interpersonal schemata--scripts (Horowitz, 1989). Psychodynamic mechanisms that are associated with the object relations school, which can be understood as IDS are:

Integration--the cognitive function that unites or assimilates two schemata;

Differentiation--the cognitive function that sets two schemata apart, differentiating frames or prototypes;

Projection--a perceptual behavioral schema that attributes internal mental states or self aspects to external objects without awareness;

Internalization--in order of complexity and maturity;

Incorporation--assimilation of environmental stimuli before self is fully differentiated;

Introjection--assimilation and accommodation of stimuli into schemata that are sufficiently differentiated and recognized as self or not self, and which have emotional significance;

Identification--a schematic mechanism that integrates valued qualities of significant others with the self-schemata;

Splitting--primitive perceptual self-other schemata involving keeping apart contradictory experiences of self and significant others (i.e., persons perceive self and others as all good or all bad simultaneously);

Idealization & devaluation--a self-other schema that opposes positive (good) and/or negative (bad) experiences in various relationships (i.e., good self--bad object, or bad self--good object) and which functions as an interpersonal script;

Projective identification--schemata that attempt to control perceived projected self aspects (negative or positive attributes) in an external object·

Transitional object--schemata that perceive (attributes) and acts towards objects that are symbiotically self and the beloved object (mother) simultaneously; and

Whole object relations--mature schemata that perceive a mixture of good and bad qualities in self and others.

Psychodynamic object-relations theory (Hamilton, 1988) is interested in the development of interpersonal schemata in the first 3 years of life, and the subsequent impact of these schemata on further psychosocial development. It is generally thought that inadequate parenting during childhood can be detrimental to the development of mature whole objects relations. It is also thought that severe personality disorders are etiologically related to dysfunctional object-relations schemata that are unsuccessfully used by persons in their professional or personal relationships. Other psychodynamic systems (e.g., transactional analysis, Hoyt, 1989; self psychology, Wolf, 1988) can be substituted or assimilated within the BASIC-BIS framework based on professional training and preference.

Cognitive mechanisms and styles are complex subsystems of perceptual-behavioral, motivational, and emotional schemata that mediate the person's

cognitive-behavioral patterns in an environment. Maladaptive, extreme, or rigid cognitive mechanisms or interpersonal styles are defined by Shapiro (1965, p. 1) as:

> a form or mode of functioning--the way or manner of a given area, of behavior--that is identifiable, in an individual, through a range of his specific acts...particularly, ways of thinking and perceiving, ways of experiencing emotion, modes of subjective experience in general, and modes of activity that are associated with various pathologies.

Hoyt (1989) provided a helpful chart of DSM III-R personality disorders which delineates perceptual-behavioral styles, mental states, and interpersonal scripts associated each personality disorder. The chart also provides a useful assessment tool which can be integrated into a BASIC-BIS approach.

In general, the BASIC-BIS approach acknowledges that developmental interpersonal schemata are significant determinants of emergent cognitive-behavioral patterns, and psychosomatic conditions. Psychodynamic schemata can function as automatic or unconscious perceptual-behavioral styles. They may be experienced as "just the way things are"--as deeply held beliefs or values that effect conscious experiences and behaviors (Goulding & Goulding, 1979; Meichenbaum & Gilmore, 1984). Successful psychotherapeutic interventions focusing at this level of structure and functioning tend to use the therapeutic relationship as a means of change. This relationship will usually produce a change in the way the person experiences himself or herself and others. Change is facilitated when the therapist successfully challenges the person's dysfunctional interpersonal schemata within the therapeutic context of warm, empathic, whole person, object relations. In the therapeutic environment, the patient is afforded the chance of experiencing both corrective emotional experiences and opportunities for the development of insight/metacognitive schemata which are associated with self-regulation (Arkowitz & Hannah, 1989; Dowd & Pace, 1989).

Cognitive-Behavioral. The cognitive-behavioral level of structure and functioning refers to a person's reported or observed thought and behavior patterns. Cognitions and behavioral patterns are considered to be at the same emergent level of structure and functioning. Simply stated, cognitive thoughts are considered to be covert behaviors. These processes emerge out of the person's interpersonal/environmental background which provided experiential and vicarious learning situations. These situations provide reinforcing and modeling stimuli that generate script schemata involving self expectations and outcome expectations (Bandura, 1986). Problem behaviors are both the products and determinants of the person's environment and cognitions. The treatment of any behavioral problem will entail changes in the environment-cognitive-behavioral system.

Social learning theory (Bandura, 1986), and the developmental cognition theory (Beck & Weishaar, 1989) differ significantly in their understanding of how cognitions effect mental health and behavioral patterns. Social learning theory asserts that cognitions are mediators in a behavior-cognition-environment system of reciprocal determinism where none of the components are given etiological primacy. Cognitive theory, on the other hand, gives primacy to cognitions in determining subsequent emotion and behavior. In practice both theories recommend behavioral techniques to facilitate change in patients. The

social learning school asserts that experiences of mastery arising from successful performance induce and alter cognitions of self-efficacy, while the cognitive therapist uses behavioral techniques as experiments to assess the quality of self-regulating cognitive determinants. This difference leads cognitive therapists to be very concerned with the development and implementations of cognitive techniques, whereas the behavioral therapists, tend to be more concerned with performance-based behavioral interventions (Arkowitz & Hannah, 1989).

The BASIC-BIS approach is more closely aligned with social learning theory's axiom of reciprocal determination than with the primacy of cognitive determinants. BASIC-BIS recognizes that once self-schemata develop through social learning principles and developmental stages, they tend to function as both mediators and determinants of mental health and behavior. While the BASIC-BIS approach does not give etiological primacy to cognitive schemata, it recognizes that cognition is an important level of intervention. Cognitions are one of many interdependent causes of mental health and behavioral patterns, and in certain situations they may be the most expedient means of relieving mental distress, particularly if the person show signs of dysfunctional cognitive scripts. Therefore, cognitive therapy principles will be discussed as an important mode of BASIC-BIS intervention.

The assessment of the client's Piagetian cognitive developmental stage of functioning is one important feature of the BASIC-BIS approach (Rosen, 1989). The Piagetian stages of sensorimotor, preoperational, concrete operations, and formal thought processes are major developmental or cognitive reorganizational stages where existing schemata are restructured to varying extents. The preoperational (pre-causal) stage begins around 2 years of age and continues through the ages 6-7. Concrete operations are indicative of a person's general functioning between the ages of 7-11 years. And formal thought processes are indicative of mature adolescent and adult reasoning. Mental disquietude is often related to the maladaptive or inappropriate use of primitive cognitive schemata (Beck & Weishaar, 1989; Rosen, 1989).

Stressful situations may trigger memories and even cognitive-behavioral styles more appropriate to early life (Tataryn, Nadel, & Jacobs, 1989). This regression may simulate the person's use and experience of self-other scripts and associated cognitive-behavioral-emotional styles which are dysfunctional in adult life. Beck & Weishaar (1989) and Rosen (1989) attributed many symptoms of mental disquietude to preoperational cognitive-behavioral styles. Both view these primitive cognitive-behavioral styles or habits as relatively unconscious or automatic schemata. This mode of thinking cannot appreciate other possible perspectives separate from one's own. Cognitive distortions associated with preoperational thought processes are (Beck & Weishaar, 1989):

Subjectiveness--personal maps of reality which dominate one's understanding of the world. Reality is constructed around one's own emotions, desires, and purposes. A widower mourns "Why did he leave me."

Thinking as an Absolutist--one's perceived reality (internal schemata) is the way things are. An example of this is the alienated teen-ager, "I don't care what anybody says, no one really cares about the poor unless they..."

Dichotomous thinking--(frames) categorizing experiences in one or two extremes (e.g., a complete success or a total failure). A doctoral candidate said, "I must be the best student in this department, or I've failed."

Arbitrary Inference--drawing a particular conclusion (prototype) in the absence of substantiating evidence or even in the face of contradictory evidence. An example of this is the working mother who concludes after a busy workday, "I'm a terrible mother."

Overgeneralization--formulating a general rule (script) based on one or a few isolated incidents and applying the rule broadly to other situations. An example of this is the man who concluded after a brief affair, "I'll never get close to anyone because I can't."

Personalization--attributing external events to oneself in the absence of any causal connection. After being treated brusquely by a supervisor, a man concluded, "I must have written a bad quarterly report."

Selective abstraction--conceptualizing a situation on the basis of a detail taken out of context, ignoring other relevant information. An honoree at a banquet was not asked to speak before her admirers. She concluded, "They don't really think I'm that great because they didn't ask for a speech."

Once dysfunctional cognitive styles are assessed, they can be empathically challenged through evidence generated during therapy and cognitive-behavioral experiments conducted in the client's daily life. These contradictory experiences create a cognitive need within the person to accommodate new experiences, and to reorganize his or her way of perceiving the world. Rosen (1989) suggested that therapists pose alternative modes of thinking indicative of concrete thinking before suggesting more advanced forms of formal thought processes involving cognitive flexibility and self-regulation.

With concrete thinking the person begins to construct theories of how the world works, and begins to develop social schemata that are more mature and adaptive. Games and rules take on new meaning and purpose, and new mechanisms, styles and habitual schemata are developed. When dealing with irrational preoperational styles, it is helpful to create therapeutic contracts which function at the concrete level of cognitive-behavioral functioning. The following principles are indicative of concrete thinking and self-regulation (Rosen, 1989; Lazarus, 1989):

Conventionalism/shouldism--the concept or rule (the way things should be) is viewed as the master of reality. Sometimes this thinking leads people to act and feel as if their wishes and whims could change an aspect of reality that is immutable.

Assumptive Realities--core beliefs and concepts of reality that are taken for granted as the ways things are.

Disconnection (Denial-Isolation)

Mind from Environment--disavowal of some distressing environmental truth.

Mind from Action--disconnection of some distressing implications, and/or needed actions.

Environment form Action--denial of the meaning or cause of a significant act on or response to the environment.

Avoidance--coping style where threatening thoughts or environmental stimuli are simply not attended to; the person refuses to talk or think about it but does not disavow.

Illusion--is to believe private or collective euphemisms and untruths designed to make us feel better.

Magnification & minimization--viewing something or someone as far more or far less significant than it actually is. Good guys, bad guys, heroes/heroines.

The assessment of the cognitive-behavioral subsystem utilizes the strategies of baseline cognitive-behavioral functioning across many situations, self-monitoring of daily cognitive-behavioral patterns, random sampling of thoughts, thinking aloud, thought reconstruction, imagery techniques, and endorsement scales (Goldberg & Shaw, 1989; Watson & Tharp, 1981). Once treatment goals are established cognitive-behavioral modification strategies would be integrated into ongoing treatment and follow-up assessments (Freeman et al., 1989; Meichenbaum, 1985; Watson & Tharp, 1981).

Insightfulness/Metacognitions. The next emergent level of mental structure and functioning is the insightfulness/metacognitive subsystem. Metacognition is cognition about cognitive-behavioral phenomena (Flavell, 1979). There are four classes of metacognition: (a) metacognitive knowledge, (b) metacognitive experience, (c) goals/tasks, and (d) means of action or strategies. Investigators have concluded that metacognition plays an important role in development of oral communication, writing, problem-solving, social cognition, and various types of self-control and self-instruction (Flavell, 1979). Clinical researches also agree that long-term change will included enhance the person's self-knowledge and self-regulation skills (Arkowitz & Hannah, 1989; Dowd & Pace, 1989).

Metacognitive knowledge is a person's core belief about persons, goals, and strategies that affect the person's conscious thought and behavior processes. A person's belief about himself and others are formed in and through their environmental, interpersonal, and cognitive-behavioral histories. These metacognitive schemata form the complex perceptual-behavioral gestalts that effect conscious goals and strategies for the purpose of controlling self and others.

Metacognitive experiences occur when a person becomes puzzled or very attentive to his/her own thought or behavioral processes. These experiences can be described as highly conscious thinking and/or acting. As a person observes the relationships among experiences, goals, means, and outcomes, he or she assimilates these observations within metacognitive knowledge, or accommodates metacognitive knowledge to the observations. As a whole, the metacognitive subsystem functions to monitor the cognitive-behavioral phenomena of self and others.

The metacognitive level of structure and functioning develops along object relations and Piagetian stages. With maturation, the relative effect of metacognitive schemata becomes increasingly more powerful in producing goal oriented self-knowledge, self-instruction, and self-control. While concrete thinkers can classify, direct, and monitor their thoughts and actions relative to goals, formal thinkers are capable of being aware of differing strategies, analyzing them, and even changing them in order to complete a task. With the onset of formal thought processes the person's potential for self-control and self-modification increases. Formal thought processes allow the individual to think about the his or her thoughts and actions as if they were separate objects. Formal thinkers have the new capacity to critically analyze their own thoughts and behaviors (Rosen, 1989). Formal thinkers think about themselves scientifically; that is, they can do more than just think through their thoughts and behaviors, they can think as if they were objective behavioral scientists.

Being at the formal operational stage, however, does not necessarily mean that the individual will perform at that level of competence in all sectors of his or her personal life. In fact it may be easier to accommodate and restructure less emotionally significant cognitive-behavioral schemata than those IDS which are emotionally "hot" (Beck & Weishaar, 1989). Thus the client may be functioning at a formal thought process level when performing professional activities, but he or she may be functioning at lower levels when conducting his or her intimate personal life, or when stressed by extreme situations (Horowitz, 1989).

While formal thought processes are normally associated with mature thinking, passionate formal thinking can lead to an advanced form of egocentrism also. For example, the late adolescent who struggles with romantic idealism; this person believes that his or her most cherished experiences are unique to him or her, and thus, thinks that no one has ever loved, believed, or acted as intensely as he or she does (Rosen, 1989).

One common goal of all psychotherapeutic interventions is the enhancing of a person's sense of self-regulation through new experiences relating to his or her problem (Arkowitz & Hannah, 1989). Metacognition becomes a more powerful influence on mental health when the person's knowledge about their cognitive-behavioral style increases, and their self-monitoring skills of memory, comprehension, and regulation increase. Meichenbaum, Burland, Gruson, and Cameron (1985) discussed several techniques that have been used to assess metacognitive processes. Several interviewing strategies were reviewed, and criteria for rating the metacognitions were suggested. Meichenbaum and his associates recommended that practitioners/researchers use an integrated approach to metacognitive assessment which uses various forms of interviewing--think-aloud method, observation of spontaneous private speech, and the inferring of metacognitions from task performance. BASIC-BIS recognizes the

need to continuously assess and facilitate metacognition. Unless environmental contingencies are rigidly structured, long-standing mental and behavioral health change must include the development of metacognitive skills (Marlatt & Gordon, 1985).

Spiritual/Existential. In and through the human capacity of metacognition emerges a level of experience often described as spiritual or existentially meaningful. While BASIC-BIS assessment seeks to understand religiosity from a social-psychological perceptive (Batson & Ventis, 1982) and from a psychodynamic perspective (Lovinger, 1984), it also recognizes the interdependent effect of spiritual and existential experience on the lower levels of biopsychosocial functioning. In the tradition of Viktor Frankl (1962) who acknowledged the effect of biological, psychological, and social conditions on the mental health of persons, the BASIC-BIS approach agrees with the survivor of four concentration camps, who asserted:

> I bear witness to the unexpected extent to which man is capable of defying and braving even the worst conditions conceivable....Man is not fully conditioned and determined but rather determines himself whether he gives in to conditions or stands up to them. In other words, man is ultimately self-determining. Man does not simply exist but always decides what his existence will be, what he will become in the next moment. (Frankl, 1962, pp. 130-131)

The metacognitive abilities that approach the experience of subjective ego--the "I" behind all cognition--are the cognitive functions specific to existential and spiritual experience. Spirituality grows out of our individual and collective sense of agency, and our individual and collective experience of being in time and space. These experiences long for a meaning--a reason for existence. Spirituality as I define it accommodates the atheist existentialist who gravels with the meaning of life, the humanist who seeks peak-experiences (Maslow, 1970), or the questing believer who feels touched by, or in-touch with something extraordinary. This form of experience and knowing transcends conventionalism, and often comes about after periods of personal discovery or development (Groeschel, 1986). Spiritual experiences can occur spontaneously or after periods of disciplined attention to ultimate concerns (Maslow, 1970; Yalom, 1980). The person's abstractive approach towards subjective ego allows him or her to experience these phenomena through the processes of indwelling--the experience of endwelt body, mind, or object--or contemplative union (Groeschel, 1986; Polanyi, 1962).

Mental health practitioners have written on how the spiritual dimension of human experience presents itself in the clinical practice. Jung (1933) observed that many of his middle aged clients suffered spiritually, but consulted with a physician because they thought they were physically ill. More recently Lovinger (1984) discussed religious issues in therapy from a psychodynamic (ego psychology) perspective. He delineated the psychodynamic functions of religious phenomena, to include defenses, adaptation, growth, and regression, and provided valuable information regarding specific problem areas associated with religious denominations and bible verse interpretations. Yalom (1980) provided an existential psychodynamic perspective of therapy which integrates interpersonal and social learning theory. His discussion of death anxiety and meaninglessness are pertinent to multidisciplinary practice involving medical psychology and pastoral care (Hyer, Jacob, Pattison, 1987).

One important sign of mental health is harmonious integration and social adaptation (Lazarus, 1989). The spiritual/existential level of experience and functioning can be a significant determinant of personal integration and adaptation, and thus mental health. Gentry and Kobasa (1984) showed that personal traits relating to the spiritual/existential meaning reduced the stress-illness relationship. Kobasa referred to this constellation of factors as mental hardiness, and it included the personal attributes of a sense of personal control, a deep sense of involvement, and commitment and purpose in life which was flexible and adaptive to unexpected environmental stressors. The experience of self as a meaningful agent--as active participant in the forces that determine one's life--is a powerful determinant of mental health. The BASIC-BIS approach acknowledges this level of causation and seeks to assess and treat spiritual deficiencies that contribute to a person's mental status.

Depending on the clinical situation, the BASIC-BIS approach will assess the spiritual dimension using psychosocial instruments (Batson & Ventis, 1982; Yalom, 1980), and psychodynamic interviews (Lovinger, 1984). Pastoral diagnosis and care (Emerson, 1986; Ivy, 1988; Oglesby, 1987; Patton, 1986) may be indicated if client and practitioner determine that spiritual issues significantly contribute to the person's mental distress. Pastoral referral is indicated when the client has a history within a religious tradition, and when qualified pastoral clinicians are available. With or without religious background or convictions, the practitioner must exercise ethical and professional neutrality as he or she assists the client in exploring beliefs, values, and issues of ultimate concern (Lovinger, 1984; Yalom, 1980).

The BASIC-BIS Psychotherapeutic Process

The BASIC-BIS psychotherapeutic approach involves a comprehensive screening assessment, multidisciplinary consultation, psychotherapy, and referral. The BASIC-BIS approach screens across the seven dimensions of human functioning. Short checklists are helpful. They can be used to survey biomedical history and symptoms, recent stressors, hygiene habits (sleep, diet, exercise), energy level, affect, thought processes, neuropsychological functions, psychosocial history (family, ethnic, educational, occupational), cognitive-behavioral patterns, level of insight and self control, and level of spiritual/existential meaning and integration (Corcoran & Fischer, 1987; Lazarus, 1981, pp. 215-243; Othmer & Othmer, 1989; Yalom, 1980, pp. 455-456). Results from the comprehensive screening are discussed within the context of a clinical interview in order to establish rapport, mental status, further assessment procedures, treatment goals, and indicated multidisciplinary consultation or adjunctive therapy.

BASIC-BIS screening guides the initial clinical interviews and psychotherapeutic goals. After assessing the person across the seven dimensions of functioning and analyzing the salient interactions among them, treatment goals are discussed and contracted with the client. Behavioral interventions can then be prescribed as homework experiments which will be monitored by the client and analyzed during treatment sessions through Socratic questioning. This stage of therapy tries to facilitate first order change which focuses on uncovering unconscious schemata, facilitating cognitive-behavioral skills, and metacognitive processes (Dowd & Pace, 1989). First order change results when a person is able to acquire cognitive-behavioral and metacognitive skills that produce both objective and subjective improvement in the client's mental status and functioning. These changes do not challenge the person's self-schemata. While self-efficacy might change in a specific area,

core assumptions about the world and self are not significantly challenged or changed. Self-schemata and family systems tend to be resistant to change, and when these schemata or systems are challenged, the client (or a significant other) often acts to defeat the efforts of the therapist. When this type of resistance occurs, other intervention strategies are needed (Dowd & Pace, 1989).

When a reasonably strong therapeutic alliance is established, second-order interventions can be intensified during therapy. Second-order interventions employ a variety of strategies that produce disequilibrating experiences that facilitate cognitive transformation and reorganization. Disequilibration occurs when a client experiences "hot" (emotional-motivational) cognitive conflict, inconsistency, contradictions, discrepancies, and incongruities that lead to attempts to achieve a more adaptive view of oneself and the world. Disequilibrating experiences challenge the person's self-schemata and assumptions about the world. Previously held assumptions and schemata are unable to assimilate the experience's new data, and thus, the person is pressured to accommodate his or her cognitive schemata to the data. Second-order change occurs when a client's frame of reference regarding their problematic situation is altered through adjustments in their self and other-schemata. Second-order change facilitates formal thought processes and metacognitive development. Maintenance of these changes will also involve long-term changes in the person's behavior and environment.

The BASIC-BIS approach attempts to match the treatment modality to the client's cognitive stage and multidimensional condition in order to reduce psychological suffering and to promote personal growth as rapidly and as durably as possible. If a person is processing at a preoperational level it is best to set goals that will help them move into concrete thought (conventional thought) before formal thought process strategies are introduced (Rosen, 1989). Several psychotherapy modalities can be utilized based on the needs of the client and the training of the therapist (Lazarus, 1981).

Several intervention modalities can be integrated into the BASIC-BIS framework. Behavioral (Watson & Tharp, 1981), cognitive-behavioral (Meichenbaum, 1985; Freeman, Simon, Beutler, & Arkowitz, 1989) strategic/systemic (Haley, 1988), experiential (Goulding & Goulding, 1979), and psychodynamic interventions (Horowitz, 1989) can be used to facilitate both first and second order change. The psychotherapeutic processes are continually monitored by follow-up BASIC-BIS screening instruments. Change is expected and short-term therapeutic contracts are revised when necessary.

Summary

The BASIC-BIS approach is not meant to be construed as a theoretical eclecticism. Within the framework of BASIC-BIS emergent interactionalism, specific aspects of once divergent theoretical orientations can be integrated into one overall paradigm of mental health and functioning. There is a hierarchy of reciprocally determining factors that effect mental health and functioning. After considering the client's BASIC-BIS hierarchical assessment, relevant clinical research, and negotiated therapeutic goals, the practitioner(s) choose(s) between several therapeutic modalities in order to best match treatment with clinical assessment (Lazarus, 1981). Interventions are employed to bring about first or second order change towards the desired mental health goals.

Mental health is defined within the BASIC-BIS dimensions. Mental health includes: biomedical integrity; organismic mind-body wellness or fitness; quality environmental, sociocultural, and interpersonal resources and support, whole-object relationships (intimate interpersonal give and take); cognitive-behavioral flexibility and diversity of coping skills; self knowledge, control, goals, and insight; and the experience of one's self and life as being spiritually or existentially meaningful.

The utility of the BASIC-BIS approach is its integrative power which can analyze complex mental health problems from several levels of structure and functioning. In general, micro levels of structure and functioning determine the person's potential developmental abilities and limitations, while emergent macro levels control the variability allowed within micro level structure and functioning. The BASIC-BIS approach allows practitioners from diverse theoretical backgrounds and/or professional orientations to integrated data within a unified model of mental health and functioning. If a form of the BASIC-BIS paradigm is adapted across mental health professions, future clinical research might explore how interactions between hierarchical subsystems, and specific clinical interventions most efficaciously impact on specific mental health disorders.

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HUMAN INTERACTION IN SPACE TRAVEL AND SPACE OPERATIONS: TOWARD A FUNCTIONAL TRAINING MODEL

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The complexity of extended spaceflight with the eventual establishment of space facilities, provides an opportunity to design and prepare for optimum human interaction in space. The assessment and adequate preparation of space travelers for exposure to such a hostile environment is critical to the successful exploration, colonization, and exploitation of space. Much of the current research in the area identifies and emphasizes the competitive and pathological aspects of interpersonal interaction in isolated environments. The author examines the current NASA Training Model and the Biosphere II Training Models and proposes the Collaborative Training Model, which incorporates the most productive aspects of other models and provides an alternative program to train future space travelers for the efficient and successful accomplishment of their missions. The proposed model focuses on development of prospective and preventive psychosocial coping skills and it also incorporates provisions for crew safety, comfort, and efficiency.

As the presence of humans in space expands in number, scope, and duration of mission, issues of quality of life in space, as well as on Earth, become increasingly relevant. Human factors, especially at the small group level, may comprise the most neglected area of America's space program.

This paper will attempt to identify major issues involved in human interaction in space, summarize available literature as it pertains to those issues, examine how current and proposed models fall short in meeting the challenge and identify a prospective and comprehensive Collaborative Training Model, for use in preparing astronauts for colonization of the "final frontier."

Background

Early in the space program, most psychological research focused on the effects of weightlessness and human-machine interface (Gerathewohl, 1959). However, numerous reviews have established the critical importance of interpersonal and group variables in the accomplishment of space missions (Haythorn, Altman, & Myers, 1966; Kanas & Fedderson, 1971; Helmreich, 1983; Natani, 1980).

Research conducted on sailors in submarines, in Antarctic work stations, on oil tankers and in flight simulators exists and has been thoroughly reviewed by Kanas (1987). The research confirms the potential disruptive influence of interpersonal tension and stress and the organism's inability to adapt to it.

In its most general form, adaptation is a complex socio-biological process of adjustment of the human organism to a new environment. Social hygiene and

the natural physiological processes of the organism also play an important role in adaptation.

Psychosocial factors will assume increasing importance, especially as space missions become larger and crews become more heterogeneous. Although there are a myriad of psychosocial factors affecting the group performance process, they can roughly be sorted into three large classes of variables: environmental, personal, and group characteristics.

Factors related to the environment or the task performance situation in which the group is functioning include (1) a hostile ecosystem, (2) solitude and monotony, (3) varying durations of day and night, (4) special clothing, (5) elementary division of labor, (6) mixed crews (male and female), (7) issues of equipment interface, (8) varying perception of time and space, (9) limited work area and availability of personal space, and (10) a restricted perceptual field with forced and continued face to face interpersonal exposure.

Personal characteristics which individuals bring to the group may include (1) patterns of individual skill, (2) physical state, (3) attitudes, and (4) personality characteristics.

The characteristics of the group itself might be reflected in (1) size and organizational structure, (2) selection and composition, (3) relative autonomy, (4) machine interface (human factors), (5) team coordination training, (6) decision process, and (7) previous interaction history. These factors will have a consequential impact on both the quality of life and the relative success of the mission.

With the mounting costs of resources and the high risk of space flight, one might anticipate that considerable emphasis has been placed on the impact of interaction in space travel. While it is true that social, psychological and psychiatric issues have been contemplated, in over 28 years of sending humans into space, there has been no methodical examination of the factors impinging upon the success of the mission. The bulk of information available on the subject is anecdotal, based upon interviews, diaries and transcripts (Cooper, 1976).

In addition to critiques of the current literature rendered by Kanas, one might add that studies to date have lacked consistency, both in their approaches and in their methods, and they have been largely retrospective. As a result, it is extremely difficult to compare the results of the current research. It is critical that the American space program shift its emphasis to the development of sound and comprehensive measures for studying the impact of human interaction in space travel.

The Soviets have put a much greater emphasis on psychological support for their cosmonauts. Their program includes intensive preparatory stress inoculation which actively involves a psychological support group of behavioral scientists in many aspects of the cosmonaut's training (Bluth, 1981). In addition, the Soviets have operated isolated spaceship-like facilities in Siberia since the 1960s, as a means of researching interplanetary space flight. (Discover, May, 1987).

In space, although technology will likely protect humans against the external environment, measures must be taken to insure behavioral stability

inside of the space station. The isolation and confinement experienced during space flight will create potential sources of interpersonal stress. Minor problems may rapidly escalate with disastrous consequences for the crew and their mission.

Cooperative international programs will include crews which are likely to be much more heterogeneous in personal, professional, and cultural background than the current national crews, thereby increasing the probability of behavioral disturbances. Attitudes, values and ways of living will undergo significant modification in space and a new society will evolve with crewmembers who find that they are no longer comfortable in their outmoded earthly environment. It is important that the development of new behaviors not be left to random selection.

Behavioral methods must be applied to the selection of spacecrews in order to optimize the behavioral efficiency of both the individual and the group. However, to date, the American space program has employed only limited psychological assessment, and extremely brief interviewing and screening in determining the flight suitability of candidate astronauts.

When American, European, and Japanese crewmembers inhabit space station, or embark upon a conjoint year-long trip to Mars, leaving the gravitational bonds of mother-earth, they will experience a substantial change from their routine ways of life. In addition to geographical isolation, they will also experience significant disturbances in their personal and professional lives. Their subjective reactions and interactions in this isolated and hostile environment are extremely important to their well-being and to the success of the mission. Irritability, depression, and poor performance are almost universally reported in isolated and confined microsocieties, and their prevalence argues strongly for a comprehensive program of research and training to identify prospective countermeasures to address such issues.

Training Models

The three selection and training models to be examined are NASA's current selection and training model; a model proposed for use in Biosphere II (a micro-model of the earth, or biome, scheduled to be occupied by eight inhabitants for a period of two years); and the author's prospectively oriented Collaborative Training Model.

Current NASA Training Model. The criteria for astronaut selection have been thoroughly reviewed by McGuire (in press).

For the first 6 months after the candidates arrive at Johnson Space Center, they undergo a short basic training course where they learn the rudiments of the orbiter's systems. Those who are to become pilot astronauts learn to fly NASA's fleet of jet fighters (T-38s), while mission specialists get accustomed to steep descents by riding in the aircraft's back seat. They spend about 40 hours in simulators and train in the altitude chamber as well as in spacesuits, under water, in the Weightless Environment Training Facility, known as the WET-F.

Following candidacy, they move into the group of astronauts available for missions, taking on a variety of assignments, all related to supporting missions in some form. In November of 1983, about half of the members of the

astronaut crew were assigned to teams of 5, each training for assigned missions. The remainder of the astronauts were busily employed in roles as chase pilots, shuttle mission simulator liaisons, capsule communicators in the Mission Operations Control Center, working in the avionics laboratory or reviewing detailed checklists and instruction manuals. The philosophy is to keep all of the astronauts awaiting missions totally linked with the action, facilitating their natural progression to their own mission opportunity. Training is highly technical and is designed to weed out weak applicants before they become candidates. Most candidates go on to be full fledged astronauts, however, some have served an entire career without once being selected for a mission. There are a significant number of questions about how final crew selection takes place at NASA. Cooper (1987) indicated that the process does not appear to be extremely quantitative. Selections are made by the Director of Flight Operations together with the Assistant Chief of the Astronaut Office. The current director, George Abey, indicated (Cooper, 1987) that "there is nothing arcane about selecting crews for a particular mission; it is simply a matter of matching the requirements of the mission with the talents available among the astronauts in the pool" (p. 76). He acknowledged that in the case of most crews assembled, the first person picked is the commander, who is always a veteran. The commander then participates in the selection of the remainder of the crew. As part of the process of bringing along future commanders, the copilot is almost always a rookie. Many of the astronauts have trained together as candidates, and all of them have spent time together in the WET-F pool working on related projects.

By virtue of their interactive training experiences, they learn to develop a common bond. During their intensive training, the crew is expected to work through interpersonal issues in a manner similar to the way any close-knit working team would. Cooper comments that, "it is the sort of galvanizing experience that can cement friendships for life...with seldom a falling out, and intense motivation that overrides any personal irritations that plague other small groups of travelers" (p. 101).

From a review of available literature and conversations with numerous astronauts, it appears that extremely little consideration goes into the current psychological screening of astronauts.

In the post-Apollo era, the psychological selection process has undergone a shift from the objective research-oriented approach of earlier years, to a much more subjective and unstructured interview process. Currently, psychological testing is not performed. Applicants for the shuttle program are interviewed for 2 hours by two independent psychiatrists. One of the questions frequently asked is, "If you had the choice of being one of the following animals, which would you choose? Eagle, bear, beaver, fox, rabbit, or wolf?" Information from a Johnson Space Center employee, who was a three time non-selectee for astronaut candidacy, indicates that the "beaver" is the correct choice.

Laissez Faire Model. The 30 million dollar Biosphere II project is privately funded by Space Biosphere Ventures, a non-profit organization, undertaking the study of creating and producing biospheres. Biosphere II, which has been under construction since early in 1987, is to be essentially isolated from the earth (Biosphere I) by a closed structure, composed of components derived from the existing biosphere. Augustine (1987) reported, "Like the biosphere of earth, Biosphere II will be a stable, complex, evolving,

essentially materially closed, life closed, energetically open, informationally fluid system containing five kingdoms of life, at least five ecosystems plus humankind, culture and techniques" (p. 1307).

Biosphere II, will be located near Tucson, Arizona, on the Sun Space Ranch, a 2,500 acre facility. Current schedules call for construction to be completed in late 1990, with partial closures in 1991 and a full closure from 1992 to 1993. The Biospherians, eight people who will be encapsulated for 2 years, will reportedly have the opportunity to operate in a totally independent and isolated environment. Candidate biospherians have participated in the design of the project and are currently participating in the operation of the experimental intensive agriculture complex. During the period of closure, the biospherian researchers will have access to a wide range of telecommunications and computer networks with the biome design consultant team in order to facilitate information exchange between Biosphere I and Biosphere II.

Little attention, however, has been given to the internal communication processes, as evidenced in comments of Dyhr (Discover, May 1987), "When it comes to the psychology and social dynamics, the two-year experiment will be run something like a scientific expedition, with a leader and hierarchy. Should an emergency arise, the team member with the greatest amount of knowledge of the system involved would take charge. The male/female ratio will be about 50/50." With regard to sexual activities in Biosphere II, Dyhr commented that, "whatever the inhabitant's do in their private time will be their own business." Discussions with Margaret Augustine, Program Director of Space Biosphere Ventures, reveal that the biopsychosocial philosophy of the organization will be to allow the biospherians to function in much the same way as a family does to resolve its conflict through natural processes. All of the selected staff are currently working together to practice their skills, hone their individual and collective interests and work out the very normal interpersonal stresses of being part of a select group, in application of what is referred to as the paradigm of daily living. The participants are reportedly applying their knowledge in healthy and creative ways, allowing their "differential psychology" and "permission to be human" to address any issues which might plague the group (M. Augustine, personal communication, August 23, 1988).

It will remain to be seen if the benign neglect of such a critical link will result in major modifications or the actual abandonment of the project. The approach appears to be tantamount to sending Columbus out to discover a new world without a map.

Collaborative Training Model. The Collaborative Training Model is proposed to incorporate the positive characteristics of both of the previously described models and also to compensate for their weaknesses. A fundamental difference exists in that the Collaborative Training Model minimizes the amount of negative human interaction occurring due to chance and maximizes the development of constructive interaction. The model proactively provides participants with the skills necessary to resolve primary, secondary, and tertiary interpersonal conflicts, empowering the group to face almost any uncertainty. Although astronauts of the Right Stuff fame have served us well on the relatively short duration missions of the past, collaborative selection and training will be critical to the success of long duration missions.

Selection. Much of the literature on the selection of members for groups is based on the assumption that there are specific qualities that will impact on an individual's membership. Group compatibility is frequently dependent on the complimentary qualities of the individual crewmembers. As a result, future research may need to shift the focus to the effect of the interaction of these individual characteristics.

According to Natani (1980), leaders who have been exposed to isolation and confinement are the most effective individuals at assembling a crew. He reported that selections based on interviews conducted by psychiatrists and psychologists have been the least effective in selecting participants. Ideally, at some future point, it will be possible to develop a psychological test battery which can screen out those individuals with undesirable characteristics, select in those with desirable traits, while at the same time assessing individual potential for positive contributions to group interaction. Social compatibility surfaced as the single most important factor in the analysis of supervisory evaluations ratings and peer ratings in the polar study (Gunderson, 1968). Altman and Haythorn (1965), in their simulation research have demonstrated that members of isolated groups who were incompatible showed increased levels of stress, withdrawal and territorial behaviors. Soviet psychologists (Leonov & Lebedev, 1975) have shown a direct relationship between social compatibility, morale and performance.

Current selection practices which categorically avoid the systematic examination of the characterological composition of the individual crewmembers, must be supplanted with state of the art quantitative and diagnostic assessment. As a minimum standard battery, the Minnesota Multiphasic Personality Inventory (MMPI), the Neuroticism, Extroversion and Openness to experience Inventory (NEO), the Rorschach Inkblot test and the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) test should be administered to all who apply to participate in the space program.

The four identified instruments efficiently assess a wide variety of desirable and undesirable personality and group characteristics without seriously impinging upon the time or the personal freedom of the astronauts. Convergence of the assessment results should be very helpful with the selection process.

Leaders who have experienced the rigors of space should play a continuing and instrumental role in the selection process.

In assessing personal attractiveness, it might also be useful to devise and validate an instrument for identifying personal characteristics which crewmembers are likely to find distasteful or annoying. This might involve a listing of physical characteristics, personality traits, and mannerisms (bad breath, unkempt hair, dirty fingernails, stubbornness, etc.) which can be rated in terms of irritation value. Once validated, such an "annoyance questionnaire" could be used in two ways. First, norms could be established to provide a basis for eliminating "unattractive" space crew candidates. Second, the instrument could be used for screening out "finicky" individuals who identify an inordinate number of human frailties as objectionable.

In selecting long duration space travelers, consideration might also be given to assessing the candidate's entire family. Halliwell (1988) has proposed that married couples be selected and trained for long term missions,

thereby attempting to minimize the impact of problem encountered with mixed sex crews.

Leadership. It will take careful planning to create and maintain a high degree of situational favorableness particularly on missions of long duration. Fiedler and his associates (1978) have developed a self-instructional program called Leader Match, which assists leaders in self-selecting and gaining control over variables which may determine situational favorableness. The military's leadership confidence courses afford individual leaders a similar opportunity. The Leader Match program in its present form may be very helpful in training astronaut leaders of the future.

In the Collaborative Training Model, it will be necessary to understand the fluctuations of situational favorableness on a given mission. A leader with the most suitable style for the situation can then be chosen. Space crew leaders must begin developing the skills necessary to be able to identify shifts in situational favorableness, becoming flexible enough to adjust their leadership behavior accordingly.

Cohesiveness Training and Sustainment. Space travelers of the future will need to be trained to be just as perceptive in group dynamics as they are proficient at their technical skills. NASA's current training model seriously disregards the impact of interpersonal issues, while the Collaborative Training Model incorporates sensitivity and experiential group dynamics training into every aspect of the astronaut program. The development of effective interpersonal skills, must not be left to chance, but must parallel and be an integral part of the technical training.

Experience shows that interactional problems begin to develop early in a new working group. By the time these issues rise to the surface, group training has usually progressed to a point where any alteration of the process is costly. Few members of space crews have training in behavioral sciences, thus, one of the first objectives, before the group actually forms, might be to examine how the team is going to be structured and how it is going to work together.

A certain level of individual conformity is beneficial, however, the extreme can stifle creativity. Safeguards against the "long eye" syndrome identified in the Antarctic studies and groupthink must be incorporated into the in vitro training program.

The "new interaction method" for managing interactions proposed by Doyle and Straus (1979) provides a framework for getting the group established. It is designed to assess conflict and adversarial input before decisions are made, thereby minimizing passive-aggressiveness in implementation of a particular decision. It has been successfully employed with both authoritarian and democratic groups and has increased organizational productivity by up to 15% by saving precious organizational time and by avoiding the phenomenon of groupthink (Doyle & Straus, 1979).

The future astronauts having been selected from a heterogeneous society, will experience all of the phenomena common to the intergroup process (stereotyping, prejudice, intergroup conflict). Birnbaum (1975) developed an educative and experiential process by which humans can learn to more effectively function in small groups. The process, which is called the

Clarification Group or C-Group, has been used with great success by the Department of Defense Equal Opportunity Management Institute for over 10 years to train Equal Opportunity instructors and facilitators. It is based in dynamic group theory developed in The Social Self (Babad, Birnbaum & Benne, 1975). The process attempts to integrate an educational process with experiential training. The cornerstone of the Clarification Group process is the exploration of the self through structured group interview, in which every group member is interviewed at length by the group. In this exploration of life history, one traces the meaning of the socio-identities as reflected in background, family, ideology, work, civic activities, and social relations. Each member has the opportunity to explore how their various socio-identities have acquired personal meanings. Individuals can examine how they were shaped by important life events and how their ideas are modified by the social experiences which they continue to accumulate. Armed with the results of their individual assessments and the experience of the Clarification Group, the astronaut candidates will be well on their way to developing the social substructure necessary for long duration space travel. The knowledge of each others histories, strengths and weaknesses, and the experience of sharing them has a significant capacity to bind and build cohesiveness in the team.

Matching the amount of work to the size of the crew is another technique for increasing space crew solidarity. It was derived from the staffing theory as developed by Barker (1968) and Wicker (1979).

In 1978, Morris examined a process model of group performance and identified several impacting factors. He first, identified the knowledge and skill which members brought to the group; second, the amount of energy which the group members invested; and third, the performance strategy utilized by them as they approach their tasks. To the degree that conditions foster the application of available skill and effort and to the extent that groups choose appropriate performance strategies, the group effort will prosper. Crews must be constituted in such a way as to maximize motivation and commitment, identifying and encouraging social performance norms which are most effective under conditions of isolation, confinement and risk. Soviet researchers describe a process called synchronization, in which group members psychophysiological functioning is involuntarily synchronized. They suggest that groups whose members develop such synchronicity do well, particularly under conditions of long term isolation (Leonov & Lebedev, 1973). Once the group has incorporated these basic interpersonal process skills, development of strategic coping skills can be enhanced through stress inoculation, confidence building and leadership reaction training, both individually and in the group. The experience gained from such training can prepare the space travelers for emergencies, grieving, death, and sexual interaction scenarios.

To assist in the development of the Collaborative Training Model, more information must be learned about on-board diagnosis and management of interpersonal frictions and conflicts. Techniques must be available for astronauts to use in uncovering and addressing the underlying sources of interpersonal friction. Methods of identifying and managing rising tensions and anxiety in oneself and others might prove extremely valuable in the space milieu. Biofeedback and relaxation training can be employed to assist in managing the tensions and stresses interfaced with the extended periods of boredom. Space travelers should be skilled at using hypnosis and other forms of trance to allow for the practice of temporal compression. Recreation will play an instrumental role in diffusing the stresses and tensions of isolation,

confinement and risk. Once issues of contamination and elimination are resolved, pets may be considered as a means of maintaining some connection with the mother planet and providing emotional support and recreation.

Passive entertainment which can be group initiated or in the form of pleasant surprises from mission control or from family members, may also assist in breaking up the boredom of an extended flight. Developing video games that the crew can play as a team, pitting their skills against mission control, may be very supportive conducive of group cohesiveness.

Above all, humor, which has played a critical role in NASA's ventures to date, must be actively injected with discriminating flexibility and frequency.

Finally, critical to a collaborative process, is preparation for reintegration. Integral planning throughout the mission must ensure that the astronauts are prepared, both physically and psychologically, for re-entry into an ever changing world. The experience of returning Viet Nam veterans and Prisoners of War might be used as a basis from which to examine the process of returning from a stress laden environment. Crewmembers can initiate their process of social reintegration through their own group process. They might be further updated on changes via communication connections and programs aimed specifically at psychological reintegration.

Summary

The focus of this paper has been to examine some of the ways in which small-group variables affect crew performance and the quality of life in space. A central theme in the literature has been choosing as crewmembers individuals who are compatible in their abilities, interests, and motives. Very little is known about all female or mixed sex crews in the conditions of isolation, confinement and risk. Mixed-sex crews, however, offer social diversity and an opportunity to work toward the eventual colonization of space. The Collaborative Model can provide the research necessary to determine if crewmembers can be tolerant of each other's differences.

Certain types of crews will have rotating membership. The Collaborative Model includes pre-entry sensitization and C-Group training for new members, as well as a detailed sponsorship program and frequent communication with the crew about to be joined.

Bonderant, in his address to the Students for Exploration and Development of Space (1988) Conference, spoke of the lessons which can be learned from the so-called lesser organisms.

Addressing the future of aviation, he identified a rotational structure of leadership modeled by flocks of geese, whereby the lead individual is periodically replaced, equally distributing the stresses of the leadership function. The process allows the flock to fly 78% further than when they are restricted to one leader. While flying in the stability of their V-formation, there is constant change which takes place within the confines of the group as they honk "words" of encouragement to each other. When one of the flock is injured, two geese drop out of the flock to remain with the injured goose until

they join another flock. Perhaps there is a lesson for us to examine in the principles of the flock, these so-called lesser organisms.

> We shall not cease from exploration
> And the end of all of our exploring
> Will be to arrive where we started
> And know that place for the first time (T. S. Elliot).

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OCCUPATIONAL STRESS AND PERSONALITY FACTORS IN ARMY AVIATORS

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Stress and personality traits have been identified as two contributing causes to human factors aircraft accidents. The occupational stress inventory and the 16 personality factor test were used to evaluate the sources of stress, level of strain, coping resources, and personality traits of a group of Army aviators. The study was exploratory in nature. The major source of stress for the Army aviators was the physical environment in which they operate. Role insufficiency, role ambiguity, and role boundary were positively correlated with all of the measures of strain. Those aviators with more social support and better rational/cognitive coping skills had less strain. Also, those aviators who were more intelligent, conscientious, and compulsive reported less strain. Those aviators who were more tender-minded and apprehensive, reported higher levels of strain. No significant relationships were found between the number of mishaps and any of the OSI or 16PF scales.

Investigations of Army aircraft accidents by the U.S. Army Safety Center have consistently found that human factors are responsible for the majority of those accidents (estimates are around 75% of all accidents). That finding is consistent with Shuckburgh's (1975) analysis of the human factor in accident statistics, and has remained stable since the 1940s (Haakonson, 1980). Stress and personality have received attention as two variables that can contribute to pilot error and human factor accidents. An increasing volume of literature has emerged which examines the role of stress in aviation operations and mishaps (Alkov, Gaynor, & Borowsky, 1985; Cooper & Sloan, 1985, 1987; Green, 1986; Haakonson, 1980; Karlins, Koh, & McCully, 1989; Ursano, 1980). Personality has been studied extensively for its utility in selecting aviators (see Dolgin & Gibb, 1988, for a review of this literature). Personality variables have received somewhat less attention in terms of their relationship to aircraft accidents, but have nevertheless produced some interesting results (Alkov, 1977; Sanders & Hofmann, 1975; Sanders, Hofmann, & Neese, 1976). Unfortunately, most of the research on stress and personality in aviation consists of single studies with little attempt to systematically research and replicate findings. Many of the studies consist of anecdotal case histories and few have specifically investigated Army aviators as a group. As a result of these deficiencies it is difficult to draw solid empirical conclusions about the role of occupational stress in a group of Army aviators, to measure their level of strain, and to assess the coping resources typically employed by these aviators. A further goal is to examine the relationship between the personality characteristics of the aviators and their occupational stress, psychological strain, and coping methods.

Stress factors affecting aircrew members have been divided into three categories, namely, environmental stress, acute reactive stress, and life stress (Green, 1985; Simmel, Cerkovnik, & McCarthy, 1989). Authors have

concluded that the environmental stressors (e.g., noise, vibration, temperature) are "the least likely to regularly affect civil pilots" (Simmel et al., 1989, p. 53). Acute reactive stress is the result of aircraft emergencies. Green (1958) noted, "The questions of whether this condition is likely to generate error in skilled behavior and whether the problems can be ameliorated." An important component of this problem is that of life stress which frequently reflects chronic problems.

The role of life stress in aviation safety has been assessed in several studies. Dully (1983) has popularized the stereotypical traits associated with the macho aviator along with the notion of the "failing aviator" who is acting out in response to stress, typically, a marital conflict. While the literature contains several anecdotal accounts of life stress affecting flying performance (e.g., Green, 1986) there have been a few empirical investigations of the relationship between stress, health, and accidents. For example, McCarron and Haakonson (1982) used the life change units approach pioneered by Holmes and Rahe (1967) and found that "aviators seemed to be functioning at a level of life crises that would normally predict health changes in over 50% of the general population" (p. 13). Alkov and Borowsky (1980) examined the role of aviator personality, judgment, maturity, leadership, professionalism, and items from the Holmes and Rahe's life changes questionnaire in aircrew members who were classified as being at fault or not at fault in a mishap. They concluded that aircrew members, in the process of deciding whether to stay in the service, were more likely to be classified as at fault in accidents. This finding also applied to those who had trouble with interpersonal relationships, had no sense of humor or humility regarding themselves, were immature, or had recently lost a friend or family member through death.

Alkov, Gaynor, and Borowsky (1985) extended this approach of looking at the differences between pilots who were causally involved in their mishaps versus those who had no culpability in their mishaps. They identified a higher incidence of "acting out" behavior, especially as reflected in problems with interpersonal relationships, in the "at fault" group. They also identified a higher incidence of certain stressors such as financial difficulties, recent marital engagements, and career decisions in the "at fault" group. Alkov et al. (1985) concluded that the acting out behaviors exhibited by the "at fault" pilots were indicative of poor stress coping.

In addition to stress, personality factors have also been studied in relationship to aircraft mishaps. Alkov (1977) studied 12 accidents and found that excessive aggressiveness coupled with immaturity or impulsiveness were characteristic of these pilots. Sanders and Hofmann (1975) using the 16 Personality Factors test were able to correctly classify 86% of aviators as to whether or not they had been listed as a cause factor in an accident. Unfortunately, they did not replicate their own results in a subsequent study (Sanders, Hofmann, & Neese, 1976). One of the difficulties in this regard is the attempt to predict a relatively specific event (i.e., an accident) from broad constructs (i.e., personality traits). The trend in the literature seems to indicate that an individual's characteristic response to stress, rather than personality, per se, may be an important discriminating factor in terms of aviation safety.

The occupational stress inventory (OSI) is an instrument that enables the researcher to simultaneously evaluate the sources of stress, the associated level of psychological strain, and the individual's characteristic coping

resources (Osipow & Spokane, 1981). The OSI is based on the stress model in which the perceived stress in an occupation may result in experienced strain and that coping resources are required to "counter the effects (strain) of occupational stress" (Osipow & Spokane, 1981, p. 8). The sources of occupational stress are understood in terms of the various work roles and environmental stressors that can create psychological strain for the individual. A particularly useful facet of the instrument is the inclusion of measures of coping resources as it allows one to assess where the person may be weak in terms of their ability to deal effectively with stress. The coping resources assessed include recreation, self-care, social support, and rational/cognitive. One aspect of this rational/cognitive dimension is the ability to use techniques to avoid distraction. This is particularly important in aviation where concentration and the ability to remain free from distractions is paramount in the cockpit environment.

Given the paucity of research on stress and personality in Army aviators, this investigation is entirely exploratory in nature. The hypothesis is simply to find out if any relationships exist between stress and personality and to examine how this may be applied in future research.

METHOD

Subjects

The subjects were 71 aviation officers attending the Aviation Officer Advanced Course at Fort Rucker, Alabama. The subjects' participation was both voluntary and anonymous. Each subject signed an informed consent form explaining the nature of the study and completed the demographic data sheet, occupational stress inventory, and the 16 personality factor test.

Instruments

1. A demographic data sheet which asked for the subject's sex, marital status, age, time in service, rank, education, flight hours, predominant aircraft, number of mishaps, and rating.

2. The OSI (Osipow & Spokane, 1981), which consists of 14 scales measuring three domains, namely, occupational stress, psychological strain, and coping resources. The scales are as follows: Role overload, role insufficiency, role ambiguity, role boundary, responsibility, physical environment, vocational strain, psychological strain, interpersonal strain, physical strain, recreation, self-care, social support, rational/cognitive coping.

3. The 16 Personality Factor Test (16PF) Form A, assesses normal personality functioning across 16 factors (Cattell, Ebert, & Tatsuoka, 1970). The 16 factors are set out in polarities, as follows: Factor A, warmhearted vs. reserved; Factor B, more intelligent vs. less intelligent; Factor C, emotion- ally stable vs. affected by feelings; Factor E, assertive vs. humble; Factor F, happy-go-lucky vs. sober; Factor G, conscientious vs. expedient; Factor H, venturesome vs. shy; Factor I, tender-minded vs. tough-minded; Factor L, suspicious vs. trusting; Factor M, imaginative vs. practical; Factor N,

shrewd vs. forthright; Factor O, apprehensive vs. unperturbed; Factor Q1, experimenting vs. conservative; Factor Q2, self-sufficient vs. group oriented, and Factor Q4, tense vs. relaxed. (Cattell et al., 1970.)

RESULTS

Table 1 contains a summary of the data from the demographic data sheet which describes the sample characteristics. Since the data are derived from a sample of convenience rather than randomly selected, they cannot be considered representative of the population of Army aviators. This is especially true, given that the sample did not include warrant officers who make up the majority of Army aviators.

Twenty-six percent of the aviators reported being involved in some type of accident (Class A to E). Since participation was anonymous, there was no way of verifying these numbers which limits the usefulness of these data in any further analysis. No significant relationships were found between the number of mishaps and the OSI scales.

Table 2 contains the intercorrelations between the various scales of the OSI. There were particularly strong relationships between the four measures of strain and the OSI scales of role insufficiency, role ambiguity, and role boundary. There was a strong negative correlation between the four measures of strain and both the social support and rational/cognitive scales.

Table 3 contains the correlation coefficients between the 16 PF and the OSI. Factors B, G, and Q3 had significant negative correlations with all of the measures of strain while Factors I and O had significant positive correlations with the measures of strain. Factors G and Q3 had a significant positive correlation with both social support and the rational/cognitive scale, whereas Factors I and N had a significant negative correlation with the social support and the rational/cognitive scale.

Tables 4 and 5 contain a comparison of the aviators scores from both the OSI and the 16PF with those of the respective normative samples.

DISCUSSION

Army aviators experience significantly higher levels of occupational stress and vocational strain than the OSI standardization sample of 909 individuals representing 130 different occupations (Osipow & Spokane, 1981). The major source of stress identified by the aviators is the physical environment in which they operate. This finding is not surprising given the physically demanding factors inherent in Army aviation such as noise, vibration, g-forces, continuous operations (CONOPS), and disruptions in circadian rhythms. An added occupational stressor, not directly measured by the OSI, is the conditions under which Army aviators are often required to fly (e.g., NOE and NVG). The aviators also reported higher levels of role insufficiency, role ambiguity, role boundary problems, responsibility, and, not surprisingly, more vocational strain than the normative sample.

There is a positive relationship ($r = .52$ to $.77$) between the stress in the aviators occupational roles and their vocational, psychological, interpersonal, and physical strain. The more occupational role problems

reported by the aviators, the greater their strain in all areas. A further important finding was that two coping resources, namely, social support and the rational/cognitive problem-solving skills, had a negative relationship with all of the measures of strain ($r = -.39$ to $-.62$). These results support the model proposed by Osipow and Spokane (1981), and indicate that aviators who have poor social support and weak problem-solving skills are more likely to experience strain than those with more effective coping resources. The ability to establish an effective social support network may be an especially important coping resource in the military environment where frequent moves and separations from family can lead to a weakening of the aviator's support system.

Certain personality factors were also significantly related to the occupational stress, personal strain, and coping resources. For example, higher scores on Factors B (Intelligence), G (Conscientious), and Q3 (Compulsive) were associated with lower scores on all of the measures of strain; whereas, higher scores on Factors I (Tender-minded), and O (Apprehensive), were associated with the higher scores on all of the measures of strain. The aviators also differed from the 16PF normative sample on a number of important dimensions.

As a group, the Army aviators can be described as more intelligent, dominant, enthusiastic, tough-minded, suspicious, experimenting, self-sufficient, and tense, than the general population. These data are somewhat different from that reported for the 16PF with private student pilots (Adams, 1985). The student pilots "were significantly different from the normative sample on five factors: Factor E (Dominance), F (Surgency), G (Conscientiousness), H (Parmia), and Q3 (Self-sentiment)," (Adams, 1985, p. 836). Surprisingly, neither of these samples reported significantly high scores on Factor C (Emotional Stability), which Cattell et al. (1970) identified as the highest personality factor in airline pilots. The differences in the various samples points to the importance of developing data specifically for Army aviators. This is especially important for instruments (e.g., neuropsychology tests) in which erroneous generalizations from incorrect norms can have potentially serious consequences for safety.

The discovery of significant relationships between occupational role stress, personal strain, coping resources, and personality factors indicates that the OSI and 16PF hold considerable promise for both research and clinical applications with Army aviators. The OSI and 16PF could be used for research into operational problems such as crew coordination. The 16PF as a measure of normal personality functioning may serve as a valuable tool in a population such as aviators where clinical measures such as the MMPI-2 may be inappropriate. The OSI could also be used as a pre/post measure for research into the effectiveness of psychological treatments such as stress management groups. Psychometric instruments such as the OSI and 16PF are potentially valuable tools for assessing the stress and coping resources of aviators as well as important aids for planning interventions to enhance and aviator's health, performance, and safety.

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Table 1

Sample Characteristics

Variable:		
Sex	Male:	94%
	Female:	6%
Marital Status:	Single:	23%
	Married:	72%
	Separated:	1%
	Divorced	3%
	Widow/er:	1%
Rank:	2LT:	1%
	1LT:	28%
	CPT:	70%
	MAJ:	0%
Aircraft:	Utility:	52%
	Observation:	21%
	Attack:	14%
	Cargo:	10%
	Fixed Wing:	3%
Rating:	Pilot:	34%
	PIC:	61%
	IP:	6%

	Mean	SD:
Age:	29.0 Years	3.2 Years
Education:	16.0 Years	0.8 Years
Time in Service:	7.6 Years	3.6 Years
Flight Hours:	848.0 Hours	656.0 Hours
No. of Mishaps:	.83	1.97

Table 2

Scale Intercorrelations (OSI)

	RO	RI	RA	RB	R	PE	VS	PSY	IS	PHS	RE	SC	SS
RO													
RI	.01												
RA	.03	.74											
RB	.11	.70	.74										
R	.28	-.04	.12	.27									
PE	-.02	.30	.33	.40	.11								
VS	.13	.70	.63	.71	.18	.43							
PSY	.09	.62	.68	.77	.25	.40	.85						
IS	.04	.56	.57	.63	.15	.25	.72	.80					
PHS	.09	.52	.58	.66	.21	.37	.73	.84	.78				
RE	-.12	-.18	-.11	-.20	.15	.12	-.20	-.23	-.28	-.13			
SC	.14	-.28	-.28	-.26	.11	.11	-.21	-.26	-.17	-.20	.34		
SS	-.14	-.45	-.48	-.53	.05	-.32	-.60	-.62	-.52	-.53	.29	.42	
RC	.05	-.52	-.51	-.54	.11	-.39	-.55	-.57	-.39	-.42	.22	.42	.64

Note: Correlations of .24 are $p < .05$
Correlations of .31 are $p < .01$

Table 3

Correlation Between OSI and 16 PF

	RO	RI	RA	RB	R	PE	VS	PSY	IS	PHS	RE	SC	SS	RC
A	-.10	.11	.14	.11	-.15	.10	.12	.18	.08	.17	.01	-.03	-.18	-.30
B	.06	-.10	-.28	-.26	-.05	-.27	-.33	-.28	-.31	-.23	-.15	-.27	.17	.32
C	.05	-.07	-.21	-.24	-.22	-.23	-.13	-.27	-.20	-.25	.16	.00	-.02	.06
E	-.19	-.14	-.20	-.07	.11	-.01	-.15	-.12	-.10	-.05	.09	-.03	.03	.12
F	-.04	-.06	-.10	-.20	.06	-.02	-.18	-.24	-.34	-.27	.30	.05	.12	.11
G	.15	-.19	-.25	-.36	-.08	-.24	-.37	-.46	-.48	-.50	-.03	.16	.40	.35
H	-.11	-.28	-.23	-.31	.00	-.21	-.27	-.27	-.21	-.28	.19	.06	.33	.19
I	-.11	.37	.40	.37	-.07	.22	.43	.41	.35	.34	-.10	-.01	-.31	-.41
L	-.19	.16	-.01	.13	.26	.20	.20	.16	.06	.14	.05	-.12	-.01	-.17
M	-.05	.01	.06	-.03	-.19	.20	.03	.04	-.02	.05	.09	-.21	-.14	-.09
N	.04	.05	.11	.03	-.30	.10	.16	.17	.15	.11	-.32	-.05	0.31	-.29
O	-.17	.27	.27	.36	.17	.18	.40	.45	.42	.41	-.22	.00	-.20	-.27
Q1	-.10	.21	.14	.22	.19	.26	.18	.18	.23	.32	.16	.03	-.13	-.06
Q2	-.06	.13	.03	.04	.01	-.13	.03	.02	.11	.06	-.11	-.10	-.07	.09
Q3	.03	-.35	-.44	-.43	-.03	-.39	-.41	-.45	-.40	-.46	-.12	.06	.33	.48
Q4	-.29	.13	.13	.18	.22	.19	.01	.07	.09	.08	-.10	-.14	-.10	-.15

Note: Correlations of .24 are $p < .05$
Correlations of .31 are $p < .01$

Table 4

Comparison of Army Aviators to 16 PF Norms **

Factors	Mean	SD	t	
A	5.29	1.58	1.16	
B	6.16	2.22	6.32	*
C	5.29	1.30	1.72	
E	6.40	1.71	19.61	*
F	6.21	1.72	11.87	*
G	5.74	1.78	1.34	
H	5.74	1.47	1.97	
I	4.88	1.74	8.67	*
L	6.21	1.64	13.11	*
M	5.22	1.78	1.66	
N	5.62	1.57	.40	
O	5.62	1.65	.37	
Q1	5.90	1.63	4.21	*
Q2	6.04	1.62	7.82	*
Q3	5.45	1.57	.07	
Q4	6.15	1.49	13.39	*

* $P < .05$

** Norm for 30 year olds is 5.5 against which scores of Army Aviators were compared (Cattell et al., 1970).

Table 5

Comparison of Army Aviators to OSI Normative Sample **

Factors	Mean	SD	t
RO	51.59	7.48	3.17
RI	52.81	9.43	6.24 *
RA	57.84	10.14	41.83 *
RB	55.05	10.28	16.93 *
R	53.00	7.17	12.24 *
VS	56.07	12.59	16.25 *
PSY	51.74	10.61	1.90
IS	53.19	10.52	6.46 *
PHS	52.54	11.59	3.39
RE	51.59	9.79	1.85
SC	53.40	8.09	12.42 *
SS	45.05	12.28	11.33 *
RC	45.07	10.01	12.89 *

* $p < .05$
** OSI normative sample mean is 50 against which scores of Army Aviators were compared (Osipow & Spokane, 1981).

PERSONALITY AND COPING IN SIMULATED AVIATION FLIGHTS: ITS APPLICATION TO AEROSPACE MISSIONS

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As part of a larger NASA research project ("Personality in Flight Operations: I. Leader Characteristics and Crew Performance in Full-Mission Air Transport Simulation," Chidester, Kanki, Foushee, Dickenson & Bowles, 1990) conducted at Ames Research Center, a smaller study (Bowles, 1990) assessed the impact of selection along dimensions of personality on workload stress, psychosocial stressors and coping skills among 23 air transport crews (each composed of three crew members: captain, first officer, and second officer/flight engineer). A total of 69 pilots completed this one and one-half day full-mission simulation of airline operations in the Ames Man Vehicle System Research Facility B-727 simulator. Three different types of captains were classified based upon cluster membership defined by Chidester (1987) and the performance of these crews were contrasted in terms of expert ratings and error frequency. This smaller project (Bowles, 1990) builds upon those contrast by examining the implications of stress experienced during the simulation, as well as relationships among personality, performance, psychosocial stress, coping preferences, and coping effectiveness. The specific focus of this paper will look at coping and pilot personality. The psychosocial coping of pilots in this paper was identified through a modified version of Sloan and Cooper's Sources of Pilot Coping (1986). Through looking at personality and coping, useful selection criteria may be developed and utilized in both aviation and aerospace environments for optimal performance in future missions.

Due to the future missions anticipated by NASA in aerospace environments, social and organizational factors impacting crews in these environments are important areas for research. Through this study, beginning guidelines could be developed for selecting individual crew members for isolated and confined environments (ICE). A group of researchers at NASA Ames (Chidester, Kanki, Foushee, Dickerson & Bowles, 1990) began research in this area looking at "Personality Factors in Flight Operations." In considering Chidester et al. (1989) findings of the captain's personality and crew performance in this partial analog simulation, non-specific coping may be an important component for selecting crew members in future missions. This paper will identify the need for this research and will show how the findings in regards to selection may be useful.

Within the U.S. Space Station, organized crews in ICE conditions will be dependent on variables such as tasks, pilot personality, and environment. Longer missions in space will not provide the same novelty and familiarity of operations as has been seen in the past NASA missions. In these space station operations, long-term stressors will impact crews and test their abilities to cope in these stressful situations. Due to these stressors, factors such as depression, irritability, and deficits in performance, are often present in such micro-societies. In the past, group conflicts such as violence or work

stoppage arose in Antarctic work stations, the Soviet space program, and nuclear submarines (Helmreich, 1983). Due to the difficulties in such environments effective solutions need to counter forces that may impact the objectives of these missions negatively.

In space operations, NASA has begun to mix scientists, engineers, professionals, and pilots who need to work together for long periods of time and manage interpersonal stress. Considering this and the stresses imposed by this environment, it would seem critical to have crews composed of individuals who are compatible. Given that recent research has highlighted crew composition difficulties related to personality variables in aviation (Foushee & Helmreich, 1988), that morale problems and intra-group conflict are common in other isolated environments, and that chronic stresses can be expected in ICE environments, learning effective ways to cope in these environments are necessary.

In space environments one would predict more effective crews would be characterized by individual technical skills, effective coping, and the ability to lead and follow directions. The recently validated personality dimensions were used to identify differences in pilot coping to establish a relationship in coping style. From this, inferences will be made about personality, coping, and performance. It was believed that the personality types examined would respond with a particular coping style different from each other. Because of a personality types predisposition to respond in a certain way, if the superior performing IE+ personality type copes in a certain way, this coping skill may be transferable to other personality types or pilots not categorized into one of these personality types. Some of these pilots may have the "right attitude" leaving them amenable to changing their coping style through training.

This paper looks at the three defined personality clusters and their relationship to nonspecific (to a particular situation) coping pilots report outside of the cockpit. To select a good leader and team looking at personality traits would make sense. In fact, personality traits, attitudes, and emotions are seen as greatly affecting personal relationships which develop within a team and, ultimately, the team's effectiveness (Dyer, 1977; Woodcock & Francis, 1981). Consequently, in a good deal of the business and management literature, team performance is viewed as a function of the type of people on the team. In order to build an effective team, it is necessary to choose the appropriate mix of people, and I would suggest looking at coping abilities along with personality and performance factors. Through findings in this study and others it is hoped that team performance in aerospace missions and industry can be maximized through adding useful selection criteria.

Method of Research

A sample of 72 line pilots from a major airline was given a modified Sources of Pilot Coping measure (Sloan & Cooper, 1986) after completing a day and half simulated trip composed of five flight segments. The pilots were asked to complete the measure before leaving the research center. Fifty-nine pilots completed usable questionnaires (in some cases pilots were unable to complete measures at NASA and were asked to mail them in). There were two female pilots who participated in the study. The table below shows the results of demographic data collected on 69 subjects. The pilots are categorized by crew position: captain (CPT), first officer (FO), and second officer (SO).

Table 1

Demographic Data

Crew Position	CPT	FO	SO
Years Employed By the Present Airline	22.5	13.8	02
Flight Hours	12,493	4,011	2,680
Hours At Position	3,259	2,145	1,505
Average Age	51	43	33

MEASURE

Sources of Pilots Coping (modified)

This measure was developed by Sloan and Cooper (1986) through preliminary background interviews with 54 British pilots. From this, 33 items were generated, and four factors were identified through the 442 pilots that participated. The original coping scale measure was used in this study with the exception being the inclusion of the 7-point Likert scale next to each item (versus at the top of the page in the original) and listing only the outer headings. Pilots were asked to circle response alternatives indicating the degree to which each factor was utilized as a coping approach for problems or stresses in their lives.

Personality Clusters

The PAQ, WOFO, and JAS revised were parts of a battery of tests initially completed by subjects (prior to the simulation in the large study) to define the personality types of pilots. Three different types of crews were composed based upon cluster membership defined by Chidester (1987) and Gregorich et al. (1989). Chidester et al. (1987) conducted cluster analyses of the personality constellations of two samples of pilots with similar standings on these multiple dimensions. Cluster analysis is a statistical technique which combines subjects into groups or clusters based upon each subject's similarity to other subjects along any specified set of dimensions based on personality batteries. Sample one consisted of civilian airline pilots, while the second sample consisted of military pilots. Three distinct clusters were found, one with high levels of positive traits, and two separate groups with negative traits. Pilots in the positive cluster were characterized by high levels of Instrumentality, Expressivity, and Achievement Strivings (Work and Mastery) and were designated the IE+ cluster. The negative cluster EC- was characterized by high levels of negative Expressivity and low levels of Instrumentality and Achievement Striving. This cluster was characterized by traits associated with tendencies to express oneself in a negative way (complaining) and lower than average goal orientation. The I- cluster was characterized by higher than average levels of Verbal Aggressiveness, Negative Instrumentality, and Competitiveness. This cluster comprised a more "authoritarian" type who would be expected to be more insensitive to crew members (refer to Chidester et al., 1989 for further information on this procedure). Only the personality characteristics of the captains were considered when pilots were assembled as crews. In all of the crews the first officer and flight engineer were randomly

assigned. In the first crew type (composed of a captain from the IE+ cluster and a random crew), the captain was expected to show the least signs of stress added to the previous finding of this leader directing the best performing crew (Chidester et al., 1989). While the other two crew types contained leaders from the EC- and I- clusters and were expected to report more stress.

RESULTS

Analyses through an Anova of the modified Sources of Pilots Coping show that the IE+ personality type pilots apply the reason and logic factor as a coping strategy more often than the EC- and I- pilots ($F[2,58]=6.82$, $p<.01[.002]$). There were no other significant differences identified; however, there were some interesting trends in coping approaches that appeared important to pilots. The IE+ relied less on spousal involvement in their careers as a source of support. The stability of a relationship and home life were more important to I- personality types as a source of coping. The EC- personality group tended to report less need for social support as a resource for coping with stress.

Table 2

Coping Styles Selected By Pilots

Personality Type	EC-	IE+	I-
Reason and Logic	3.51	4.47***	3.63

***The mean for the IE+ Pilots differs from the I- and EC- Captains at the .01 level, in that IE+ is more prone to select this style of coping for problem solving under stress.

DISCUSSION

In ICE, theoretically, one would want people less dependent on important others emotionally and significantly more self-reliant as has been found in the IE+ personality captains who have also been found to be the best performers (Chidester et al., 1989). The results here indicate that the IE+ personality contains qualities that may be useful for coordinating team responses. These skills the pilots use in their personal lives to cope are likely called upon in the air. Training pilots in coping strategies would help improve interpersonal relationships for pilots in the cockpit and at home. Alternatively, we would select for these coping skills during recruitment and screening.

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UNITED FLIGHT 232: CASE HISTORY OF ARMY UNIT REACTIONS TO INVOLVEMENT IN A MASS DISASTER[1,2]

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Army Reserve and Army National Guard units were called upon to assist in the aftermath of United Airlines flight 232. Most of the military personnel had no previous training for the jobs they performed which often involved intimate and extensive contact with dead bodies. This paper will describe the nature of the trauma encountered, and the responses of individuals to these traumatic events immediately after the crash and several weeks later. The approach that was taken emphasized consultation to individuals and organizations, facilitated normal recovery, and promoted a supportive family and unit atmosphere.

This presentation highlights the role of mental health providers in a consultation to individuals and units that were exposed to mass death. The decade of the 1980s saw many instances of mass death affecting the military: the bombing of the Marine barracks in Beirut in 1983, the Gander plane crash of 1985, the explosion aboard the USS Iowa in 1989, and numerous training accidents, particularly in Europe, that killed many soldiers.

Background

Consultation to individuals who have been exposed to mass death is not a familiar area to most practitioners. Professional training sometimes prepares us for counseling the suicidal, people with terminal illness, the survivors of

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[2]The views of the authors do not purport to reflect the position of the Department of the Army or the Department of Defense (para 4-3, AR 360-5).

the dying, and the bereaved, but not those exposed to the dead. A community-oriented approach is advocated, not a clinical approach. Consultation is best performed outside of the clinic at the sites where people work. The consultant should try to see as much as possible without becoming overextended and should be alert for normal reactions to abnormal events, not pathology.

Regardless of what you do or do not do, the social context in which the individual functions will play the larger role. That is, following exposure to mass death, the individual will return to a family, a unit, and a community that will provide some degree of support. Usually, the mental health practitioner is but a small part of this context unless he/she makes it his/her mission to attempt to intervene in the social milieu, when possible, to facilitate recovery. We advocate consultations with commanders and non-commissioned officers before, during, and after a mass disaster to promote a supportive unit environment. Such an approach will probably be more useful than providing mental health treatment to the affected after the event.

Responses of Individuals to Dead Bodies in Mass Disasters

Previous work we have conducted tells us major stress points that people are likely to encounter when handling dead bodies in a mass disaster and how they cope with these stressors (Ursano & McCarroll, in press; McCarroll, & Ursano, in press). They are traumatized through viewing, smelling, and touching the grotesque, unusual, novel, and untimely forms of death. Bodies that are badly burned are difficult to handle because of the smell as well as the appearance. Often people are unable to eat meat for some time after handling burned bodies. Children's bodies and the bodies of friends, relatives, and acquaintances are also considered to be severely traumatizing exposures. The handling of personal effects, as well as encounters with names and pictures of victims and of surviving family members, also contributes to psychological distress both during and after an exposure. The process of identification with the dead or the survivors sometimes produces distress due to the feeling of "it could have been me" or "it could have been my child."

The Crash of United Flight 232 and the Sioux City Response

United Airlines flight 232 crashed in Sioux City, Iowa, on Wednesday, July 19, 1989, at 1601 hours. A team, which was headed by Dr. Ursano, was invited by the U.S. Air Force Surgeon General to provide consultation assistance to the Air National Guard unit whose members were extensively involved with the aftermath of the crash. Army Reserve and National Guard units were also involved and will be the focus of this presentation.

Sioux City is a small community of approximately 80,000 people located at the western end of Iowa. It serves as a railroad shipping center and a packing house for the farmers in that area of the midwest. Flight 232 was going from Denver to Chicago when the engine failure occurred and the pilot had to look for a landing place. The Sioux Gateway Airport is co-located with the 185th Tactical Fighter Group, an Air National Guard unit. Within a mile were Army National Guard and Army Reserve units. These units were manned by full-time personnel and, thus, had a minimal contingent on hand the day of the crash.

Involvement of the army personnel began immediately prior to the crash. One commander saw the Air National Guard A7 aircraft landing quickly at the Sioux Gateway Airport which he knew was unusual. A soldier in the unit worked at the local sheriff's office, and called to alert his unit that a disabled plane was attempting to land. Another commander, after the crash, saw the

smoke of the wreckage, called the Disaster Assistance Office, found out what had occurred and asked his personnel if they wanted to go to the airport and help. They set off for the airport with whatever gear they had on hand, a couple of ambulances, and some first aid supplies. It was estimated that there were about 60-70 Army National Guard and Reserve personnel on the scene immediately or soon after the crash.

There was chaos at the crash scene in terms of the number of vehicles, the noise, smoke, and difficulty finding anyone in charge. Many Army people told us that people, victims as well as helpers, came up to them to ask what to do because they had a uniform on. This was reported as stressful and contributed to feelings of "I should have done more." All the available civilian emergency services units and medical personnel went to the crash scene where they assisted with first aid and provided transportation to local hospitals. One commander saw the confusion of the walking wounded on the runway and thought that he could make a contribution by gathering the crowd of survivors around him, in order to get them on a bus which went to the airport terminal. It seemed that no one was in charge of this activity, so he took charge. There was personal cost to him, however, which was that he had to ignore some pleas for help from survivors, wounded and non-mobile, who wanted him to help them locate loved ones. This was a tough decision, and he later told us that he needed to know if this had been the right decision. All of the survivors were taken to safety within 45 minutes. It appeared to be a miracle that anyone lived through the crash; however, there were 111 killed and volunteers were needed for several additional days.

The bodies of the dead were covered and left on the runway overnight. Some told us that for about 150 feet, all you could see were bodies. Volunteers were needed for recovering aircraft parts, bodies, and body parts, as well as personal effects, from the crash site. Other members of the Army units in the Sioux City area were called at home and asked if they wanted to volunteer to work on the scene the next day. One hundred percent volunteered. On the second day, those who were not scheduled to go to a previously scheduled annual training (AT) and who had volunteered to help at the crash scene assembled between 0700 hours and 0800 hours in the morning. They had to wait at the unit until 1100 hours before they went to the site, which gave the soldiers additional time to imagine or think about what could happen, what they could see, and to wonder whether they could withstand the shock of seeing the burned and mutilated bodies at the scene. "Will I be able to handle it?" was what many of them reported asking themselves. When they arrived at the scene, they had to wait an additional 2 hours because the wings of the plane had to be shored up with railroad ties to prevent a collapse of the fuselage on those who were working inside recovering bodies. While waiting, they could see the dead bodies hanging upside down in the fuselage. They were frustrated because they could not do anything to help and had to wait.

By the end of the third day, most of the Army Reserve and National Guard personnel had departed to AT. This was a significant event because people were required to leave the crash scene after their participation in the recovery of the dead from the crash and were removed from family and sometimes from unit support. On the days immediately following the crash, we were able to talk with only the few Army National Guard and Reserve personnel who had not gone to AT. In order to talk with as many as possible of the people who went to AT after having volunteered to work post-crash, SPC Deerfield and I returned to Sioux City about 7 weeks following the crash.

By days four and five, Saturday and Sunday, there were still full-time personnel and part-time soldiers working. This group of volunteers was being briefed on their duties inside the mortuary. Among the events that are helpful for people who are exposed to dead bodies are, first, that the duty is voluntary and, second, that they be given some description of what they are going to be exposed to. The commander of one unit briefed his people in stages. He gathered the volunteers in a neutral place, the cafeteria, and described, in general terms, what would be seen on the crash site. He then moved them to where the bodies were held in the temporary mortuary and had a medical examiner talk to them and describe in more detail what they would see. The emphasis during both talks was on the volunteers' doing only what they wanted to do. Those we talked to thought this approach had been helpful in preparing them for their jobs and for the stress involved.

Bodies in bags had to be removed from refrigerator trucks to start the identification process. Inside the mortuary, volunteers removed clothing and personal effects from the bodies and recorded these items, a job that many people find highly stressful. The victims were fingerprinted which sometimes required that the finger tips be cut off. Whole body x-rays were taken; and dental identification was performed through visual charting, which required removing the jaws out so the teeth could be x-rayed. This is the only part of the mortuary activity about which I heard a briefer provide a specific warning: "You might want to stay away from the dental area." An autopsy was performed on each body and parts were re-associated. The last step was embalming and casketing. Townspeople spontaneously placed memorial wreaths on the chain link fence of the airport.

Reactions of Individuals at the Crash Scene and in the Mortuary

On our return trip to Sioux City, SPC Deerfield and I talked with many more of the participants from the aftermath of the crash. The following anecdotes are illustrative of people's reactions to their exposure to the stresses.

* - An E-5 and an E-4 who were close friends worked together picking up personal effects. They characterized the scene by saying, "It looked as if someone had taken their lives (the passengers) and dumped them out on the ground." They found watches that were still running, keys, pictures, and other reminders of domestic life.

* - A sergeant who worked for 3 days on the scene saw a leg, detached and burned, with some of the bone showing, draped over a pipe in the fuselage. He reported that he didn't think anything of it until he saw someone bite into a chicken bone. He said "I couldn't handle it." It made him feel sick. He said "I can't, I won't eat chicken anymore."

* - Some of the full-time workers involved in the recovery of bodies from the fuselage were civilians from the vehicle maintenance shop. They knew that some of the passengers had been returning from a vacation in Hawaii where they had purchased boxes of pineapples. As the workers were removing bodies from the fuselage, they stepped on pineapples and wondered if those pineapples were peoples' heads. Most said that they won't eat pineapples anymore.

* - Another maintenance man told us about the "black spot" that he had a hard time washing off of his arm after coming home from working in the

fuselage. His wife asked him about it and he told her that it was probably burnt skin or fat. He stated that he could still see the spot--"It will always be there."

* - One of the soldiers who worked in the mortuary talked about the woman who brought the six-pack of Budweiser beer to the personal effects area for her husband who had been killed in the crash, "So he won't be without his beer," she said.

* - Another soldier told us about recalling a "garbage smell" from her work at the mortuary when she took out the garbage at home.

* - At the mortuary, a pathologist who did autopsies and identified the victims said, "I had to go out and cry. I can handle one or two bodies a day..."

* - A senior Army commander who provided aid to victims at the crash scene said, "We live our whole lives with boundaries like male and female bathrooms and privacy, then you have to throw it all away and do what you have to do."

* - Person who worked in the identification area--"The worst part was looking at the bodies during autopsy. I didn't look at them too much. Opening the bag, I didn't know whether it was head or foot first. Every time I pick up a bag, I wanted it to be heavy, an adult male, didn't want the bag to be light."

* - Another person in autopsy area--"You didn't have to look at them, but you keep glancing."

* - Advice to people going to work in the mortuary area--"Take it a little at a time; get used to the area." "Better to see them undress them than to see them cut open." "Take it as a job."

* - One person observed, "Everybody is more frightened than they thi k they will be and everybody is stronger than they think they will be."

* - A senior NCO volunteered for the job of calling relatives to obtain dental records for use in the identification process. She had no supervision or support in this activity, but was handed a list of names with notes beside them. The name of a female casualty was next on the list with the note "no records locatable" and a name different from her own was listed as the point of contact at the household she was to call. The NCO called the home, asked for the person listed, told her she was from the administrative center from the Sioux City crash. She asked the woman if she could help locate the dental records on the dead passenger. She (the woman on the other end of the line) said there were no dental records; they were going to take her (the dead passenger) for her first dental appointment this Friday. She told the caller, however, that the girl was a thumb sucker, that her top two teeth were practically parallel to the floor. The sergeant realized that the casualty was a child and asked the woman on the line what her relationship was to the child. She said she was her mother; both started crying.

* - There were two women who started working the list of names, referred to above; one of them was the NCO I referred to, the other was a younger woman. After making one phone call, the younger woman said, "I can't handle this," and

left. Later, the two women ran into each other getting a snack. The younger woman had gone to assist with the bodies in the mortuary and said to her friend who was still working on the phones, "It's easier out there." The one NCO had self-selected to work on the phones because she thought she could not handle working with the dead bodies, but found out that contacting survivors was probably at least as stressful as working with the bodies.

* - Another woman worked typing lists of the passengers' personal effects. She reported that this was not an easy job either. She gave an example of typing one report that said, "Right ear, pearl ear ring; left ear missing." The people working on the personal effects and telephone inquiries received no prior training or briefing for the job, those working in the mortuary did.

Aftermath at Annual Training

Prior to the AT, a senior officer from a higher headquarters recognized that some of the people who had assisted at the crash might need some assistance during the time of the AT. He requested the services of mental health workers from the medical battalion to provide a plan for these soldiers. CPT Mindt and SPC Graner provided the plan and the services. Prior to the arrival of these two people at AT, a group meeting was held with the soldiers who had assisted at Sioux City. The purpose of the meeting was to open channels of communication, to provide the people an opportunity to talk about their experiences together, and to inform them that mental health personnel would be available during the AT. The response to this request for mental health assistance for the soldiers had to be carefully structured so as not to give the message that everyone who participates in a mass disaster is a casualty. Such an oversolicitous approach would risk creating casualties. Their response was orderly, cautious, and respected the rights of people not to participate while offering support to those who needed it. It was necessary, as always, for the mental health consultant to build credibility with command and with the soldiers. This process was assisted when information was obtained on the current status of the passengers that they had assisted on site, particularly a little boy who had been severely injured at the crash. Several soldiers had seen the child, were quite affected by the sight of his injuries and wanted to know what had happened to him. CPT Mindt contacted the hospitals in Sioux City and obtained information on the boy's status, as well as that of others, which she passed on to the soldiers. They were visibly relieved; it was crucial for them to know the ending.

Many of the Army and Air Force Reserve and National Guard personnel had responded to the crash in their civilian status. For example, some were members of the police forces and some were nurses, which had brought them in contact with victims. Thus many responded to the disaster, but did not function together at the time. When they went to AT, they might or might not have been together, in other words, some people were isolated both during the disaster and during the training. The AT was seen by the mental health team as a way of working through the distress from the crash with people who had worked together at the crash before returning home. A proactive stance was taken.

CPT Mindt and SPC Graner went to see the soldiers out in the field, inquired as to their welfare, and offered group or individual counseling sessions for those who wanted it. They were able to contact 87% of the soldiers who had been involved in the crash. Many people displayed anger, listlessness, frustration, and irritability. In consultation with the commanders, it was decided that people who wanted to would be allowed to sleep

one night in the garrison area (as opposed to out in the field) and that they would be given the opportunity to contact loved ones by phone. In this way, they made sure that people had adequate rest and had access to telephones so they could call their families back home. They were also given the opportunity to return home, although none did. People elected to remain with their unit. A decrease in performance was treated as temporary and normal as people were given time to recover. Within 3 days, people began to snap out of the shock and began to improve their military performance and their attitude. The following vignettes were given by CPT Mindt and SPC Graner.

* - One man felt guilty about not knowing more first aid skills. When he was informed that he had done all he could and that there were 15-20 doctors on the scene, he felt better.

* - A man picked up body parts and personal effects at the crash site. He was greatly affected by the children who had been killed and by someone that had gruesome facial injuries. He talked of trying to wash the smell and stains out of his truck after he had picked up the bodies and how difficult this was and of being "spooked" to drive the truck. He was provided desensitization training and was later able to sleep in the truck. When he felt that he no longer needed to do this, he seemed at peace with himself.

* - A soldier had flashbacks when he saw a woman in town who wore red nail polish. He had picked up a hand at the crash that had similar nail polish.

* - One male soldier was not contacted as early as others were. He had been isolated from other members of his unit who had responded to the crash, and had been unable to sleep for long periods of time. During the disaster, he had had a crash victim die in his car enroute to the hospital. He felt overwhelmed, unable to concentrate, guilty, and isolated. He was transferred to the battalion aid station for sleep and rest and reunion with members of his unit who had been at the crash site. Two days later, his condition was greatly improved.

* - Another person had to fly as a passenger in the near future, but was afraid to get on an aircraft. He was given desensitization training and was able to make the flight.

* - A woman who had undergone many recent social changes, including being new to the unit, had worked as a nurse at one of the hospitals and was exposed to many horrendous injuries from the crash. During the previous year, she had been attached to a different unit, but at AT she was assigned to the medical battalion where she knew no one. Her prior unit had functioned at the crash. Due to her isolation and distress, it was requested that she be re-united with the unit where she had known people. By the second day after she had been placed with her old unit, her outlook, appearance, and demeanor had improved greatly.

At the end of AT, CPT Mindt and SPC Graner sent information about stress, expected symptoms, and treatment to the families of those who were involved and to the officer in charge of family affairs. This material emphasized that common responses such as denial, and the occurrence of reminders after the event that bring it back to consciousness such as smells, sounds, and sights.

One of the issues that is a matter of private and sometimes public concern later is that of recognition. At the time of the disaster, the outpouring of response was spontaneous and generous. People were offended when the Army National Guard and Reserve commands tried to find a way to pay people for their time. They did not want money or awards. Later, however, people often felt differently about recognition. We have heard people say that they felt cheated because they did something that others did not, or could not have done, and no military award was forthcoming.

CONCLUSIONS

There are no easy answers to the question of how to provide mental health care to people following a disaster. In addition, every disaster is different. Many people will make assertions as to the effectiveness of their techniques, particularly debriefings, without evidence to support such claims. Our purpose has been to furnish information on how some people responded to disasters.

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A CLINICIAN'S GUIDE TO CONDUCTING SUITABILITY EVALUATIONS WITH SPECIAL OPERATIONS PERSONNEL

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What are the secrets of an effective suitability evaluation with special operations, aviators, or special forces personnel. How do you identify evasiveness and recognize deception during the interview? This presentation will focus on the techniques and strategies associated with conducting effective clinical interviews in the adversarial setting and on the recognition of deceptive response patterns in special operations personnel.

The adversarial interview is an extension of the clinical interview but it is more than a review of systems and an MSE. It is a process of assessing the subject's attitudes, values, beliefs and motives--but most importantly their integrity. Once assimilated into practice, this interview process gives the clinician a better understanding of how the subject will conduct himself, make decisions, respond to unfamiliar events and react to critical events.

THE INTERVIEWER

Anyone intending to become an effective interviewer must develop some prerequisite skills. You must develop sensory acuity--the ability to attend to small behavioral cues and indicators that occur rapidly and disappear quickly following a deception. Flexibility is critical for quick recognition of deception, permitting the interviewer to respond with probes to counter it. Another "tool" that is necessary for the interviewer is the ability to establish rapport with the person facilitating the identification of incongruences in behavior that may represent deception. Finally one must work continuously to overcome mental barriers which inhibit effective listening and understanding during the interview process.

THE SUBJECT

An individual is a collection of behaviors, motives, beliefs and attitudes that make up the loosely knit concept of "personality." The successful interviewer has some idea or template about what they believe constitutes the structure of personality. The interviewer uses this framework to develop an understanding of what makes the person tick, what constitutes the person's motives for applying for a position, and his or her unique manner of communicating information.

The individual's personality pattern will have an impact on the interview. This "pattern" is made up of responses that identify what makes the person tick, what motivates the individual, and what interviewing tactics will most effectively influence this person's behavior. The interviewer can work with this "personality pattern" effectively when the following principles are understood and applied to ensure accurate and honest information gathering:

a. Nonverbal communication accounts for about 80% of communication.

b. About 80% of communication is manifest in the face and eyes of the person.

c. Deceptive communication is different from honest communication. Deceptive individuals experience high states of anxiety which must be released or "leaked." This "leakage" usually occurs in the form of autonomic (the polygraph theory), or automatic behaviors that are difficult to control even when they are pointed out to the individual.

Subject analysis is critical and occurs throughout the interview. This analysis is never completely systematic and is constantly refined. The interview strategy is chosen and modified to ensure that a complete picture of the subject's personality structure is understood before the interviewer applies any strategy or tactic.

THE PROCESS

Interviewing is more than just a review of the pertinent facts or information on an application. It is a process of assessing the applicant's attitudes, values, beliefs, and, most importantly, behaviors. An effective interview involves not only the verification of facts, but an understanding of how the person acts in the decision making process, and how he or she responds to unfamiliar events. This constitutes the major structural focus of the interview. The interviewer may also be interested in the veracity of the information provided by the individual since the trust component of the working relationship sets the tone for all future interaction.

The resourceful interviewer must learn to recognize the subtle nonverbal cues that occur during the interview which give an indication that deception is taking place. These telltale signs indicate that deception is present and may signal specific areas of deception.

This recognition process is not something magical or merely intuitive. It is based upon cues that are a product of the person's deep-seated, unconscious anxiety about the consequences associated with being caught, or discovered in an illegal act, and similar to the discomfort associated with deceiving someone we care about. The magnitude of this unconscious response is dependent upon the nature of the deception and the regard that the person has for the listener. Even trivial deception can produce a noticeable anxiety response.

All of us have had experience with deception. One can deceive fairly easily, especially, if the decision is minor. Sometimes, we justify a lie to ourselves by saying, "It was the right thing to do at the time." However, few of us can lie without a feeling of tightness in the stomach, or some involuntary change in facial expression, or without diverting our eyes from the person with whom we are speaking. These are nonverbal or subconscious responses of deception that are difficult to control and which often "leak" our underlying deceptiveness, revealing our guilt.

This "leakage" is a product of a primitive physiological mobilization process (the "fight or flight" survival mechanism). The "leakage" behavior is quite specific, but varies across individuals and between subcultures. Therefore, if the interviewer is to recognize and understand the meaning of these unconscious, and often fleeting, micro-behaviors, they must establish a baseline to calibrate these indicators for e ch person. Thus, one establishes a frame of reference or context for examining tne meaning of these behavioral responses.

TACTICS AND STRATEGIES

In order to insure that accurate information is gathered, interviewing strategies have been developed that will reduce the mental barriers associated with a perceived threatening situation. Most interviewers are only familiar with the traditional approach of information gathering which uses the who, what, where, when, and why questions. What is needed is a questioning strategy that greatly increases the amount of valid, accurate information that the interviewer can obtain from an individual.

Developing Rapport

Establishing one's credibility is an essential step in the development of trust, a necessity for an effective interview. For a long time, it was believed that such trust either happened or it did not. Now, we know that there are techniques that one can use that will ensure that an applicant will risk involvement and self disclosure, overcoming mental barriers inherent to such interactions. This can be accomplished when the interviewer demonstrates a genuine respect for the person and shows an understanding of the individual's needs and desires from the outset of the interview.

Congruence

First impressions may not always be correct, but they are often lasting. Most interaction with a subject during an interview is carried on at the nonverbal level. This area is what is called image management. The way you dress, your behavior, and the gestures that you use must match the individual's expectations of the role that you are playing if you are to be credible from his or her perspective. Your words, volume and tone, rate of speech, gestures, facial expression and posture assist others in judging the congruity between what is said and what is meant.

Establishing your reputation via formal introduction is often risky, because it assumes a common experience base of the individual which may not be realistic. Sharing anecdotes or comments in the context of the conversation, with reference to prior working relationships, and discussing facts and experiences that can only be obtained through experience in the field, builds credibility. Such sharing throughout the interview, lays the groundwork for mutual sharing and honest self disclosure later on.

Demonstrate Acceptance

Demonstrate your acceptance, interest, and respect for the subject by being prompt, attentive, and free from distraction during the interview. Review the purpose and format for the interview. Acknowledge questions in "the person's own language." Bond the person to you by focusing on common experiences or perspectives. Use gestures and expressions that link you together through some mutual background or common roots. Your open acceptance and positive treatment signal a degree of safety to the applicant that occurs at the subconscious level.

Pacing and Leading

After you have joined the individual at the subconscious level, the resulting dialogue is easy. Pinpoint the hidden norms, concerns and experiences. Use these as "hooks" to pace the individual being interviewed. Tell stories designed to establish credibility, and set the occasion for open self disclosure of information. Elicit information to assist you in understanding the emotional state, defensiveness, and resistance. These factors reveal to you which mental barriers must be overcome if honest information is to be collected.

Reframing

If doubts or resistance surface, pace them by reframing these as exception rather than expectation. For example, "I see, what you mean is that..." or "This was not your intention, but you were trapped by the situation." Acknowledge doubts as assets, or the reported behaviors as reasonable and understandable under the circumstances. Each of us wants to be accepted and to have our behavior understood.

The Elicitation of Honesty

The process of deceptive communication is different from other types of communication. Most of us have experienced the initial discomfort that occurs when we have someone tell us something while their behavior makes us suspicious of its truthfulness.

The real trick is for the interviewer to create an expectancy of honesty, a mind set that, when developed, leads to a subject's virtual inability to violate it. In a psychological sense, it shifts the normal anxiety associated with admitted wrongdoing to the anxiety associated with lying to someone who is deeply loved and respected (e.g., comparable to lying to one's mother or father).

Even though this transference on the part of the subject is unrealistic, it creates an excess of anxiety and results in the subject being far more willing to admit to error. Admission to errors in judgement, mistakes or impulsive acts is more easily endured than the experience of anxiety that accompanies violating this primordial bond that the interviewer has tapped into.

Guiding and reframing the benefits of honesty and playing on the deep-seated taboo of lying to one's parents, as well as the sense of relief, will allow the subject to experience relief of the burden of guilt that he or she is carrying. The object is to reframe anxiety as a by-product of deception rather than one due to the fear of consequences associated with being caught.

With this subtle reframing introduced, you will be amazed at what people will disclose about themselves. This is even more surprising in light of the fact that these disclosures may result in the loss of job or position. However, the illogical nature of the disclosures ignores the basic therapeutic effect of the interview and the resulting sense of relief that the subject feels on sharing this anxiety provoking material.

Catching the Pathological Liar

Almost all liars are betrayed by their own behavior, but most of us are not skilled lie-catchers. In fact, we sometimes cooperate with the liar by not really wanting to know the truth, letting the signals slip by.

The pathological liar has learned to use certain tricks to influence others about their trustworthiness. They typically "overstate," "overreact" and "overdo" their actions. We expect a liar to be evasive and dodge the issue. Liars know this so they don't do it. They have learned not to avert their eyes or turn away from an accuser. In fact, they seem to be too controlled and sustain eye contact far too long. The real clues to look for in an accomplished or pathological liar are the subtle ones, such as the half shrug, the lip bite, the forced smile, or the facial touch.

Detecting a practiced liar is not easy, but it is a skill one must cultivate. To be effective, the interviewer must learn the telltale signs of anxiety that are incongruent with what is being said. Even the pathological liar cannot control all of the anxiety "leakage," since it is not under voluntary control.

The body cannot help but "leak" these symptoms which manifest as incongruous facial responses or gestures. The face, nose, speech, and body movements are the first places to look. Fragments or gestures or slips of the tongue are signals something isn't right. We also have to realize that there are several ways to lie: by omission, distortion, fabrication, or concealment. All of them are betrayed by some aspect of the deceiver's behavior--usually comparable to distress or worry. This leakage may also be evident by the lack of appropriate gestures of movements that characterize normal behavior for that individual. It is important to look for patterns and behaviors or actions that are inappropriate to the pattern.

The interviewer also must avoid creating the "false-positive error" by creating a self-fulfilling response in the subject. This common mistake is the provocation of an emotional response inadvertently in an innocent person and interpreting it as deception. This could be called the "Othello" error in which Othello's suspicion of Desdamona, who he suspects of infidelity, is so strong that it causes her to panic and therefore appears deceptive.

Despite these potential pitfalls, most interviewers can improve their skills at "lie catching." By attending to the facial expressions, voice inflections, body movements, and gestures you will learn to pinpoint individuals who are deceptive and be in a position to deal with them more effectively.

A Note of Warning

Remember that some people you may be evaluating are excellent manipulators in their own right and will attempt to pace/lead you to focus on their strengths or where they want you to look. However, these are not what you are attempting to evaluate. Beware when the process seems too smooth, and without evidence of any resistance or discomfort when you probe sensitive areas. I have found over the years that telltale verbal remarks carry the interview, like: "really to tell the truth," or "to be perfectly honest" or "I wouldn't tell most people this" are the subject's attempts to manipulate or deceive you, and should cause you to reassess your interview strategy, since the response is really incongruent with the status of your rapport and is therefore probably not genuine at this point in the interview. Continue to look for these incongruences in other areas (e.g., the "honest to God" remark with a major break in eye contact or shift in body orientation, or grooming movements of a hand to the mouth, nose, or face). These incongruous behaviors should give you food for thought, and generate a healthy skepticism for the honesty of the person.

Dealing with Deception

Once you have identified deception you have several options: (1) You can note it and ignore it, but it has provided you with a useful calibrated pattern of behavior that will reoccur when the individual lies again, or (2) you can modify your questions to elicit another response and use the implied threat, "Are you sure?" This is the equivalent of an attack; and if the individual is lying, his anxiety will be difficult for him to control and it will be obvious. If at the same time you fix this peak of tension by moving into his personal space and letting the silence and your expression of expectation and disappointment exert pressure, you have created the potential opening for self disclosure. Allowing the anxiety to build by remaining silent and to be directed inward, creates a tremendous pain that may trigger an admission. This type of control technique is essential if complete, accurate, and honest information is to be gathered from subjects of an interview.

There is no dictionary for nonverbal cues or signals with a list of definitions as to their meaning, as there is for verbal symbols. However, there does seem to be a pattern of signals that emerges within individuals as they communicate. This pattern is not random, but an integral part of the person's communication process, situation, personality style, and surroundings. As interviewers, we should learn to attend to these significant pieces of information for evidence of incongruity and dissonance that provide valuable cues for assessing the honesty of the information we are collecting.

Closure of the Interview

Before you actually terminate the interview, leave the individual with a sense of having done the right thing. No matter how devastating the disclosures have been, it is important for the individual to go away with their self-esteem intact. This act can create a bond with him that may serve you well in subsequent dealings. Make it clear to him that few people are perfect and that his disclosures, though part of the decision making process, does not necessarily imply disqualification from consideration for the position. However, the failure to be honest would result in certain disqualification.

CONCLUSION

In summary, people reveal themselves not only through their verbal communication, but by their mannerisms and reactions to others. We have often had someone tell us something, and been left with an uneasy suspicion that they were not being completely honest with us. When we ask ourselves why, we may not know exactly, but we realize that it was something about their behavior that just didn't fit. Without realizing it, we have developed a "polygraph in our eye" that has calibrated behaviors for truthfulness. When we see something that is incongruent with that set of behaviors we become suspicious. This is the time when you need to pay more attention to the music and ignore the lyrics of the conversation, since the real meaning of the communication is conveyed in the latter.

The purpose of this article was to provide you with a framework for consciously gathering information, both verbal and nonverbal, to be derived during the interview. Allow yourself to listen to the music as well as the words, but remember, the music gives the opera meaning.

STATE-OF-THE-ART INTERVIEWING
(WITH EMPHASIS ON THE ASSESSMENT OF INTEGRITY)

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What is the secret of effective interviewing--how do you recognize deception? This workshop will focus on the techniques and strategies associated with effective interviewing and the recognition of subject deception. It is designed to help you to better understand a subject's response style, develop rapport and overcome the mental barriers inherent to an interview. Exercises and demonstrations will be conducted to provide the participant with these techniques and those of pacing, leading and elicitation of both baseline and deceptive response indicators.

Effective interviewing depends upon several factors: (a) an analysis of the subject being interviewed; (b) knowledge of the techniques and strategies used in interviews; and (c) some common sense skills used to assess communications between people.

An effective interview is more than a review of pertinent facts and information on an application. It is a process of assessing a subject's attitudes, values, beliefs and most important--his behavior. Once assimilated in practice, this process gives the interviewer a better understanding of how the subject will conduct himself, make decisions, and respond to unfamiliar events.

The interviewer must learn to recognize the subject's nonverbal cues that indicate deception. These cues (responses) are produced by the subject's unconscious anxiety about the consequences of being discovered in an illegal act or the discomfort associated with deceiving someone. The magnitude of this response is dependent upon the nature of the lie--but even trivial lies can be detected.

Deception comes easily to some people; especially if it is perceived to be minor or can be rationalized as the correct thing to do. But few people can do it without tightness in the stomach or diverting the eyes from the person they are talking with. These nonverbal (conscious) aspects of deception are difficult, if not impossible, to control, and they serve as "signs" of the subject's underlying intentions or guilt feelings. While the preceding are only basic examples, it is clues such as these that indicate deception.

Individuals are a collection of behaviors, motives, beliefs, and attitudes that make up this loosely knit concept we call "personality." The successful interviewer is one who can quickly access this "personality" through the application of interview strategies, principles, and techniques to achieve the most productive result. The objective of this workshop is to teach you to be a more effective and productive interviewer.

RULES FOR NON-VERBAL BEHAVIOR

1. Never read a single gesture alone as deceptive criteria.

    a. You must read behavior in clusters.

2. What is normal behavior for the individual may be deceptive behavior for the population at large.

    a. There are four ways to determine normative behavior:

        (1) Observe the individual's behavior prior to their entering the interview room.

        (2) Observe the individual in the interview room as soon as they are seated and prior to beginning the interview.

        (3) Look for relatively unstressful behavior during your ascertaining background information.

        (4) If possible, obtain behavior samples of the individual when you leave the interview room.

            (a) This is especially important with teenagers.

            (b) If, when alone, the individual exhibits behaviors indicative of deception for the general population, it is probably normal behavior for the individual.

3. Read face / hands and arms / feet and legs.

    (a) As a cluster, not as individual areas.

    (b) Ask yourself if the areas agree with one another.

        (1) A calm face with a lot of arm and leg movement is a good indicator of deception.

4. Repeat relevant material during the interview and look for repetitive behavioral cues.

5. Compare non-verbal behavior emitted in the pre-interview stage between psychological probing questions and regular questions.

6. Compare non-verbal behaviors emitted during control type questions with those emitted during relevant questions.

NON-VERBAL TERMINOLOGY

General Deception: Overall behavioral cues indicate general deception but not specifically to what.

Specific Deception: Behavioral cues indicative of a specific lie or concealed information.

AREAS TO READ

Face:

1. Most visible area, however, it moves at the fastest time and it is easiest to control.
    a. Very complex musculature.
    b. Capable of showing more than one emotion at a time.
    c. Expressions become automatic over time.
    d. Very easily controlled.
        (1) An individual will give a "micro" expression lasting from 1/5th to 150th of a second, which can be observed with training.
2. Break the face down into three areas:
    a. From the eyebrows up.
    b. From the eyebrows to the nose.
    c. From the cheekbones down.
        (1) Know the difference between fear or surprise ard anger.
            (a) Eyebrows up and forehead wrinkled indicates fear or surprise.
            (b) Eyebrows down, with a squint or stare indicates anger.
3. Masking is a deliberate attempt to cover up facial expressions.
    a. Smile: the easiest to assume, however, does not affect the eyebrows.
    b. Anger or Disgust is a common masking expression.
    c. Surprise is sometimes used to mask facial expression and eyebrows, however, you can always trust the fear brow.

4. Simulation is an attempt to show feelings where there are none.

   a. There are four ways to spot it:

      (1) Shown at wrong time.

      (2) Expression held too long.

      (3) Expression given too often.

      (4) Too extensive in scope.

Hands and Arms:

1. Offer medium visibility and speed.

2. Illustrators are the use of the hands to try and express or explain the verbal message.

   a. Increased activity = truthfulness

   b. Decreased activity = deception

3. Adaptors are any movements where the hands contact the body.

   a. Self-adaptors are learned while you are young to handle basic needs.

   b. Increased use of adaptors = deception

   c. Adaptors are not meant for communication. They are habitual, the individual is rarely aware of them; and they are generally triggered by frustration or upset with the present situation.

   d. Examples:

      (1) Block input (cover eyes or ears).

      (2) Block sound (cover mouth).

      (3) Grooming behaviors (play with hair, nails, etc.).

      (4) Erotic behaviors (rubbing, massaging, squeezing, scratching, playing with self, poking).

      (5) Watch for face play adaptors, where (mouth, ears, eyes) and when (control - relevant - irrelevant) they occur.

      (6) Crossed arms (must be high to indicate an attempt to close you out).

      (7) Steeple, if high, is a sign of confidence; under chin, it is a sign of thinking.

Feet and Legs:

1. General Deception:
    a. Tense positions.
    b. Restless movements.
    c. Repetitive movements.
2. Specific Deception:
    a. One leg suddenly stretched out.
    b. Both legs suddenly pulled under the chair with ankles crossed.
    c. Knees up with feet on chair.

* Placing a hand on the inside of the leg is a comforting gesture.

FEMALE DECEPTIVE BEHAVIOR

Courtship gestures are often used to influence the interviewer. They may be conscious or unconscious; a typical sequence may be:

(1) Head to the side.

(2) Wide eyes.

(3) Looks down (to show she's a lady).

(4) Then looks up under the eyebrows, and smiles.

(5) Tongue on teeth.

(6) Finger to lower lip.

(7) Flip hair back--grooming.

(8) Quick succession of smiles.

TEENAGERS

1. Display a lot of nervous behavior.
2. Are hard to generalize to the larger population.
3. It is best to have the opportunity to observe them while they are alone to attempt to determine their normative behavior.

BODY MOVEMENT - GESTURES	POSSIBLE INTERPRETATION
Head or Face:	
Lowering the eyebrows	Concentration or anger
Raised eyebrows	Possible surprise, anticipation or questioning
Widening of the eyes	Heightened interest, fear
Removing glasses	Withdrawal
Closing nostrils with fingers	Contempt
Index finger along side nose	Suspicion
Mouth falls open	Bored or unsure of self
Flared nostrils	Hatred and aggression
Cheeks sucked in	Disapproving and critical of others
Tongue constantly flicking teeth	Sexual aggressiveness
Tongue constantly flicking lips	Passive need to be made love to
Biting lips	Self-depreciation
Lowering chin and looking up	Coy, shyness
Picking face or biting nails	Unsureness, negative feelings toward self
Hands and Arms:	
Fingering collar of shirt	Desire to escape
Placing hand over heart or middle of chest	Honesty
Playing unconsciously with ring	Possible conflict or trouble with partner
Wiping under nose with finger	Aggression
Drumming or tapping fingers	Impatience, hostility, frustration
Fingers steepled	Superiority
Hands held behind head	Confidence, superiority
Man running fingers through hair	Uncertainty

Woman playing with hair or man quickly combing hair	Flirtation
Holding hands deep on lap	Defense against rejection
Self scratching, picking, squeezing	Aggression, hostility
Woman exposes palm to man	Flirtation
Rubbing objects	Reassurance, sensuousness
Fist pounding or clenching	Aggression
Hand covering face	Protection
Self caressing, stroking	Sensual personality, possible narcissism or vanity
Covering eyes with hand	Fear or shame
LEGS OR FEET:	
Crossing legs/arms in front	Fear of human contact
Foot tapping	Irritation, annoyance or repressed anger
Short choppy foot swing	Anger
Curling toes up or down	Sexual interest
Restless foot movement	Anxiety
BODY:	
Leaning forward	Interest or acceptance
Leaning backwards	Lack of interest, non-acceptance
Standing rigidly; arms away from sides in tense C curve	Defensive-aggressive conflict, could be fear of being attacked verbally
Buttocks pushed out prominently	Hostile (sexual) feelings
Body pushed out in front	For woman could be preoccupation with fertility and pregnancy
Stomach muscles held in tight	Aggressive-defensive syndrome
Shoulders slumping or sagging	Repressed hostility, withdrawal, fatigue, grief, hopelessness, apathy
Shoulders held rigidly	Aggression - attack position

Shoulders shrugging	(1) It's not my fault (2) Patience or non-resistance (3) Need to rid of something irritating (4) Show you cannot do something or prevent something from being done
Unbuttoning clothing	Cooperation, agreement, sexual attraction
Buttoning clothing	Rejection, withdrawal, sexual defensiveness
Turning body away	Rejection
Turning body toward	Acceptance

THE ISRAELI EXPERIENCE OF STRESS AND ADJUSTMENT

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The Fourth International Conference on Psychological Stress and Adjustment in Time of War and Peace convened in Tel-Aviv, Israel, from January 8-12, 1989. More than 40 panel discussions, 20 major presentations and several poster sessions were conducted. The major goals of the meeting were fourfold: (1) the exchange of international knowledge related to stress and coping in war; (2) encouragement of international cooperation between scientific and professional communities; (3) presentation of Israeli ideas, research, and treatment programs developed since the 1973 Yom Kippur War; and (4) focus on Post-Traumatic Stress issues of diagnosis, treatment and prevention. The author reports on various highlights of the conference and provides a synopsis of materials that are particularly pertinent to the military mental health practitioner. Emphasis is focused on command consultation for the combat mission.

Since the Yom Kippur War of 1973, the use of psychological principles and the employment of psychologists in all elements of the Israeli Defence Forces (IDF) has seen a dramatic increase. In one sense, this interest in psychology as a force multiplier, is an inevitable consequence of history and necessity. There exist few situations in the world where a country faces the overwhelming odds that are evident in Israel. This is an ever present fact of life that calls for unique solutions which find their genesis in historical precedent. Many of the methodologies currently employed or refined by the IDF were proposed in ancient times and have been "rediscovered" during past wars across the world. It is an unfortunate fact that psychology has not been able to maintain a foothold as an important element in tactical considerations for most other countries.

The citizen soldiers of Israel are imbued from the earliest stages of life with the sense of their individual importance to the survival of the state. Every person, female and male, must participate in the military if they are to enjoy such rights as higher education. All members of the society are expected to respond to mandatory military service as if it were an honor and privilege, despite any personal ethical consideration to the contrary (Levy, 1989). Psychologists are employed directly in the process from assessment and selection of potential career soldiers, in all phases of training, through deployment for combat.

The success of these interventions has been generally regarded as a model for the military of other countries to emulate (Belenky, 1985). This has been especially true in the frontline treatment of combat stress reactions and the return of soldiers to productive service during wartime. In recent years though, a discontinuity has developed between the stated objectives of the military in Israel, the opinions of some service members, and public sentiment. The certainty of purpose which has been preeminent in times of declared war is slowly dissipating during the current stressful period of internal dissent.

News of young soldiers and conscripts refusing to train or abandoning their units is carefully censored by the Israeli government. The community of military psychologists in Israel has consciously redirected its efforts to understand the importance of these developments. There is a concerted effort underway to stem the potentially debilitating effects on morale and readiness.

The peculiarity of Israel's current events does not only influence the effectiveness of the military. The population at large is bombarded by the ever present reality of living in the most dangerous and tenuous of daily circumstances. The term "Intifada," or uprising, has been used to describe what is happening in the Mideast and the uncertainty that so pervasively surrounds the questions raised by Palestinians (Pines, 1989).

World opinion is divided about The Intifada and the course it has taken in the region. Some view it as a self-inflicted wound that results from the unremitting determination of a few influential politicians. Others see it as a cultural imperative that is a result of a millennia of strife between peoples claiming a common homeland. Both assertions have some basis in fact. Whatever the position taken, the impact upon the population is continuous. Basic needs of people on both sides of the debate are threatened and the resulting tension is palpable. The frustration and anger that ensues from this stress is often misdirected externally as well as internally (Pines, 1989). These issues are starting to supplant the primary concern for military readiness in the society.

The general consensus of mental health professionals in Israeli society is that they do have considerable and direct impact upon the course of these events in the civilian and military sectors. While it is not the intent of this paper to cover the many and complex issues that comprise the fabric of current difficulties in Israel, it is important to appreciate how psychologists have been intimately involved in pursuing the solutions to these difficulties. They certainly go about their business as if their world depended upon the solutions that come from their research and therapeutic interventions. This proactive stance has brought them broad societal acceptance and lends credence to proposals and programs they design.

The 5 day conference held in Tel-Aviv every 4 years gives hundreds of participants from all over the world an opportunity to reflect on their own roles in an increasingly stressful global society. The comparison of various research and treatment programs serves to emphasize common global problems. The content of The Fourth International Conference on Psychological Stress reflects how the issue of stress has become a predominant one. Those lessons learned have broad applicability in times of war and peace.

THE MILITARY LABORATORY

In years past, the primary focus of this conference has been on stress in the military. Eventually, the generalization of information that was initially developed in the armed services has become very evident in a number of reports coming from many civilian sources. Over the years, the difficulties of immigration, acculturation and the stress of infertility were all topics that appeared on the agenda along with the more traditional PTSD, and disaster intervention programs. The impact of international terrorism has now become a viable concern for all world societies and the treatment of the survivors of

group disasters seems to be a daily occurrence. Each of these topics received consideration at this conference along with dozens of others. Lately, the research has become so interrelated that it is difficult to determine where specific ideas originated.

Among the more interesting panel discussions related to the military were those that demonstrated the longitudinal research of the IDF in the areas of recovery from Combat Stress Reactions (CSR) as defined by Mareth and Brooker (1985) and the treatment of chronic PTSD casualties. One of the advantages of a relatively controlled society is that long-term research can be initiated and carried out with little difficulty. Such is the case of research on those soldiers who have suffered combat reactions during Israel's wars. Almost every CSR patient can be accounted for and thus followed through The Research Branch of The IDF. The work of Solomon (1989) and her colleagues (Milgram, 1989) has been both prolific and revealing.

As an example, The Koach Project (Shoham, 1989) was a program developed by the Israeli Mental Health Department to follow these veterans into civilian life because of the alarming occurrence of chronic PTSD even in treated soldiers 3 or more years post-combat. Research findings from these studies seem to demonstrate that certain treated individuals will continue to experience PTSD symptoms and difficulties beyond those experienced by others. It is speculated that this is mediated by predisposition (Bernat, 1989) and social support (Waysman, 1989), among other factors.

The search for predisposing factors of hardiness and resistance to stress is another broad area of research in several countries (Bartone, 1989; Koran, 1989; Orr, 1989). This line of investigation may contribute to an overall reduction in stress reactions through the dual approach of improved selection and training of individuals. Dimensions of personal hardiness are currently in the developmental stages and establishment of reliable and valid assessment techniques are still pending.

The military laboratory has provided psychologists with the opportunity to study stress reactions during several recent accidents. Herlofsen (1989) reported on his intervention with a mobile mental health team during a training accident which killed 15 soldiers in Norway. His emphasis on (a) the basic principles of combat psychiatry (Kentsmith, 1986), (b) group intervention, and (c) the need to treat rescue workers, as well as victims, is guidance worth repeating. This advice is echoed by Ursano (1989) in his discussion of the Gander, Newfoundland crash involving the death of 248 U.S. soldiers and the impact of their deaths on various community members.

The tension induced by the rigors of military training is becoming a fertile ground for current and future investigations. Minimizing the impact of stress on personnel attrition is the primary goal, especially in highly selective units (Roland, 1989; Esroni, 1989). Predictive measures of potential for inductees to complete training have been based on a variety of variables and some have met with reasonable success (McCarrol et al., 1981; Luski & Israelashvili, 1989).

The implementation of counseling strategies based upon predictive data drawn from basic trainees has demonstrated the applicability of preventative and immediate intervention (Georgoulakis et al., 1981; Roland, 1987). The use of data collected on trainees can also provide invaluable information for

prediction of future military performance (Israelashvili, 1989). These studies serve to reinforce the move toward increased utilization of mental health resources in military training settings.

Dover (1989) emphasized that the basic tenets of stress reduction theory were supported repeatedly by ongoing research in the military and in the civilian arena. Providing preliminary information to people about the nature of impending stress is perhaps the single most important mediator of adverse reactions. In addition, the decrement of performance caused by deprivation of sleep and other necessities are topics that all commanders should understand. Beyond these individual issues loom the overarching considerations of the organization. A firm basis of knowledge about the mission, structure, goals, and norms of any organization is a necessity for the development of successful interventions.

SUMMARY

The overall evaluation of this conference is an exceedingly positive one. Professionals around the world are providing service and engaged in research designed to ameliorate, prevent, and understand the broad implications of stress. This has resulted in refinement of older ideas (Spielberger, 1989) and improvement in intervention techniques. Current treatment for stress problems resulting from disaster and war are being used daily and their effectiveness is evident. As in most evolving concepts, there is room for improvement.

It is plain that Israel has taken its role in this effort very seriously. Psychologists there are involved in a broad spectrum of areas where their skills are respected and relied upon. This is a situation that they cultivate carefully through hard work and political advocacy. Their military system provides active and reserve psychologists the opportunity to frequently demonstrate the efficacy of well developed skills. The involvement and influence of these experts will increase in both the tactical and social spheres of Israeli society over the coming years. There are several important lessons for psychologists in the American military to learn from these examples.

Undoubtedly, the most consequential lesson is one of involvement. The peacekeeping force in the Mideast and the Panama invasion serve to graphically demonstrate this contention. The mental health professional of choice during "real life" deployments for most conventional military commanders is either a social worker or chaplain. This decision is unquestionably due to skill and, more importantly, visibility within the organization.

Professionals who are experts in all phases of stress reduction can be rendered ineffective by a lack of integration into an organization. A continued willingness on the part of these individuals to understand the structure and personality of an organization is a prerequisite to overall effectiveness. Decision makers in the military and in community disaster planning will rely on a resource if they are sure of its creditability and availability. In this regard, familiarity breeds utilization and is the prime lesson to be learned by all who would provide services in any setting.

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HIGH FUNCTIONING VS. DISTRESSED ENLISTED SOLDIERS: A COMPARISON OF PROFILE TYPES ON THE 1986 REVISION OF THE CALIFORNIA PSYCHOLOGICAL INVENTORY

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The California Psychological Inventory (CPI) is a useful personality measure that samples a wider range of personality function than the commonly used Minnesota Multiphasic Personality Inventory (MMPI). Its recent revision has dramatically changed the scoring of several scales, and added several new scales, including a super-ordinate method of classification of CPI profile types. Unfortunately, no normative information for the new CPI is available for Army enlisted personnel.

The present study, conducted at the Fort Lewis Community Mental Health Service (CMHS) compares distressed soldiers contacting CMHS for counseling assistance with high functioning soldiers tested as perquisites for attendance at special military training schools. Significant differences between the two groups are observed on Vectors 2 and 3, but not for Vector 1, suggesting that introversion-extroversion may not be a useful dimension for the prediction of military adjustment, whereas norm acceptance and actualization are. Mean CPI profiles for both groups are presented to aid in psychological evaluation of soldiers taking the CPI.

INTRODUCTION

While the MMPI still dominates as a personality testing device, strong gains in popularity have been observed for the California Psychological Inventory (CPI) (Spielberger, 1979; Franzese, 1984). The CPI (Gough, 1956), offers several advantages over the MMPI, including a shorter testing time. Gough (1975) estimates the average CPI testing time to be between 45 minutes to one hour. The MMPI, by contrast, requires between 1 and 1 1/2 hours "for persons of average or above average intelligence, without complicating factors" (Graham, 1981).

Although there is an item overlap of 192 items between the two tests, the CPI's orientation is measurement of personality characteristics which have a "wide and pervasive applicability with human behavior" (Gough, 1975), rather than strictly pathological conditions. This is potentially one of the strongest arguments for use of the CPI in research and screening purposes with military populations, as research findings consistently demonstrate the CPI to be superior to the MMPI as a predictive assessment device (McDonough & Monohan, 1975).

The MMPI is pathologically oriented. Designed for assistance in diagnosis of hospitalized psychiatric patients, it has unfortunately not shown itself to be a reasonable predictor of job performance--even when using controversial research scales (Buroa, 1978; Inwaid 1982). In attempting to predict performance of police officers once accepted into a department, McDonough and Monohan did not find any significant correlation between MMPI profiles and any of four outcome measures, although significant results were found for CPI

scales, interview scores, the Rorschach, demographic variables, Otis IQ and civil service scores. The problem with the MMPI is largely attributed to the inability of its item pool to sample positive behaviors, which is not surprising, as they where not selected with this purpose in mind. This difficulty has prompted some prominent MMPI experts to suggest the "marriage" of the MMPI with the CPI for job performance applications (Dahlstrom & Welsh, 1974).

The 1986 revision of the CPI (Gough, 1987) has modified and shortened the item pool, added new validity algorithms, as well as several new clinical scales. The revised CPI now includes 20 clinical scales.

Perhaps the most remarkable addition to the new CPI has been the "Structural Scales." Megargee (1972) surveyed factor analytic studies of the CPI and concluded that two major themes can be extracted from the CPI. The first related to extroversion, the other to social conformity. To this, Gough (1987) adds a factor describing "a sense of self realization of the attainment of personal goals," thus producing a three dimensional model on the axis labeled Internality, Norm Favoring, and Self Realization (Gough 1987).

Gough spent a number of years developing these three scales, each of which forms an orthogonal vector as components of a three dimensional, structural model of personality function, as derived by factor analysis. The first two super-ordinate scales reflect the substantive themes of the inventory, while the third registers the individuals sense of obtainment of these goals. Gough suggests that individuals approach interpretation of the CPI by first examining these variables.

This super-ordinate system breaks individuals into four types using the first two vectors V.1 (Internality) and V.2 (Norm Acceptance). These types are Alpha (for Externally Oriented and Norm Favoring), Beta (Internally Oriented, Norm Favoring), Gamma (Externally Oriented, Norm Doubting) and Delta (Internally Oriented, Norm Doubting). The presence of the third unrelated variable, V.3, allows classification of each of the four types according to the individuals level of attainment of the goals indicated by their type. Thus each category can manifest any level of self realization.

The CPI manual presents occupational correlations associated with many professions and the structural scales. Unfortunately, the only military application cited in the manual is a sample of Army officers, which would suggest that the typical Army officer is a modal Alpha (n=343), with a distribution of scores as follows:

Alpha	58.3%
Beta	25.1
Gamma	13.1
Delta	5.5

However, there is no data presented or in the literature for Army enlisted personnel, who may differ substantially from the officer sample. Further, recent research by Russell (1989), indicated that at least one of the normative samples in the CPI Manual may be in need of revision due to changes in the populations over the last 2 decades.

The present study delineates the typical population seen at an Army CMHS on intake, but also contrasts this to a sample of high functioning enlisted soldiers being considered for advanced schooling.

METHOD

The subject sample are enlisted army soldiers serving at Fort Lewis, Washington. For a 30 day period, all intakes at CMHS were asked to complete the CPI as part of their initial evaluation (N=48).

An additional duty of Community Mental Health is providing routine psychological screening for advanced NCOs applying for the Special Operations Target Interdiction Course. For the period 1988-1989 all such applicants where given the CPI in conjunction with the MMPI required for this evaluation (n=28).

RESULTS

Statistical analysis of the data reveals the following distributions of type between the two samples:

	SNIPERS	PATIENTS
A	63.0%	14.6%
B	18.5%	8.3%
C	7.4%	39.6%
D	11.1%	37.5%

With Chi square significant to P<.01, clearly there are some dramatic differences between the two samples, with the NCO group being largely Norm Accepting, and the patient sample Norm Doubting. To integrate this into the "folk concept" idea stressed by the CPI, successful NCOs thus would appear to be described as mainly "company men," whereas the patient sample is largely a group of "misfits."

The above data raises the possibility that the observed difference is largely a function of Vector 2. An analysis of variance of the three vectors confirms this hypothesis:

ANALYSIS OF VARIANCE

VARIABLE	STD ERROR	STD COEF	TOLERANCE	T	P(2 TAIL)
V1	0.005	0.008	.2329091	0.157	0.878
V2	0.007	0.339	.0656379	3.359	0.001
V3	0.004	0.638	.0737111	6.701	0.000

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	p
Regression	148.496	3	49.50	474.95	0.00
Residual	7.504	72	0.104		

V.2 (norm-favoring) is highly significant, whereas V.1 (Extroversion) does not distinguish the two groups at all.

There is also a very significant difference on V.3 (Self Realization). This information is presented in Figure 1.

The modal V.3 level for the NCO group is 7, the modal level for the patient example is only 2. While it is not surprising that CMHS patients are more distressed than well functioning NCOs, it is interesting to note the magnitude of the difference.

T score profiles of the patients vs. the school applicants are presented in Figure 2. Note that while the school applicants appear to score much higher on most clinical scales, they are notably low on three scales: Femininity, Empathy and Independence. A priori, the results for Empathy and Femininity would have been expected--these combat arms soldiers are requesting sniper training, and could be expected to exhibit a more traditionally masculine attitude, and perhaps less likely to take the position and understand the feelings of others. The result on Independence is somewhat surprising, but reaffirms the idea of these soldiers as company men.

CMHS patients score lowest on Well Being, but manifested mean scale scores below T=50 across the instrument.

DISCUSSION

It appears that our present sample of high functioning Army enlisted personnel closely resembles the officer norms reported in the CPI Manual (1987). They are Modally of the Alpha type, and mainly display the higher levels of self realization. Such individuals are described by Gough as having a high aspiration level, and as people who "invest their values in the shared, interpersonal world, and in adherence to norms. Alphas are doers, people who carry out sanctioned mandates of the culture. At their best, they can be charismatic leaders, and instigators of constructive social action" (Gough, 1987).

By contrast, our patient sample was almost evenly divided between the Delta and Gamma types, and the lowest levels of actualization. Gammas are described by Gough as "the doubters, the skeptics, those who see and resist the imperfections and arbitrary features of the status quo." At their worst, they are rebellious, intolerant, self-indulgent and disruptive. The Deltas are described as "reflective, idiosyncratic and detached...at their worst, they are fragmented, conflicted and withdrawn, and prone to decompensation."

The dimension of introversion/extroversion did not differentiate the two groups, and may not be an important factor in military success. It would be interesting to see whether this variable played a role in success or failure at the special school for which these candidates were assessed.

The literature would suggest that those individuals in the "Delta" category, and those individuals at the lower ranges of self realization (three or below) would be the least likely to succeed at tasks we would ordinarily relate to success in a corporate structure (Helson, 1986). It would be interesting to see if better prediction for military job and school performance could be gained by using the new CPI than is presently being found with the MMPI. The literature from police selection would suggest this would be the case for Army personnel as well (McDonough & Monohan, 1975; Spielberger, 1979).

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FIGURE 1

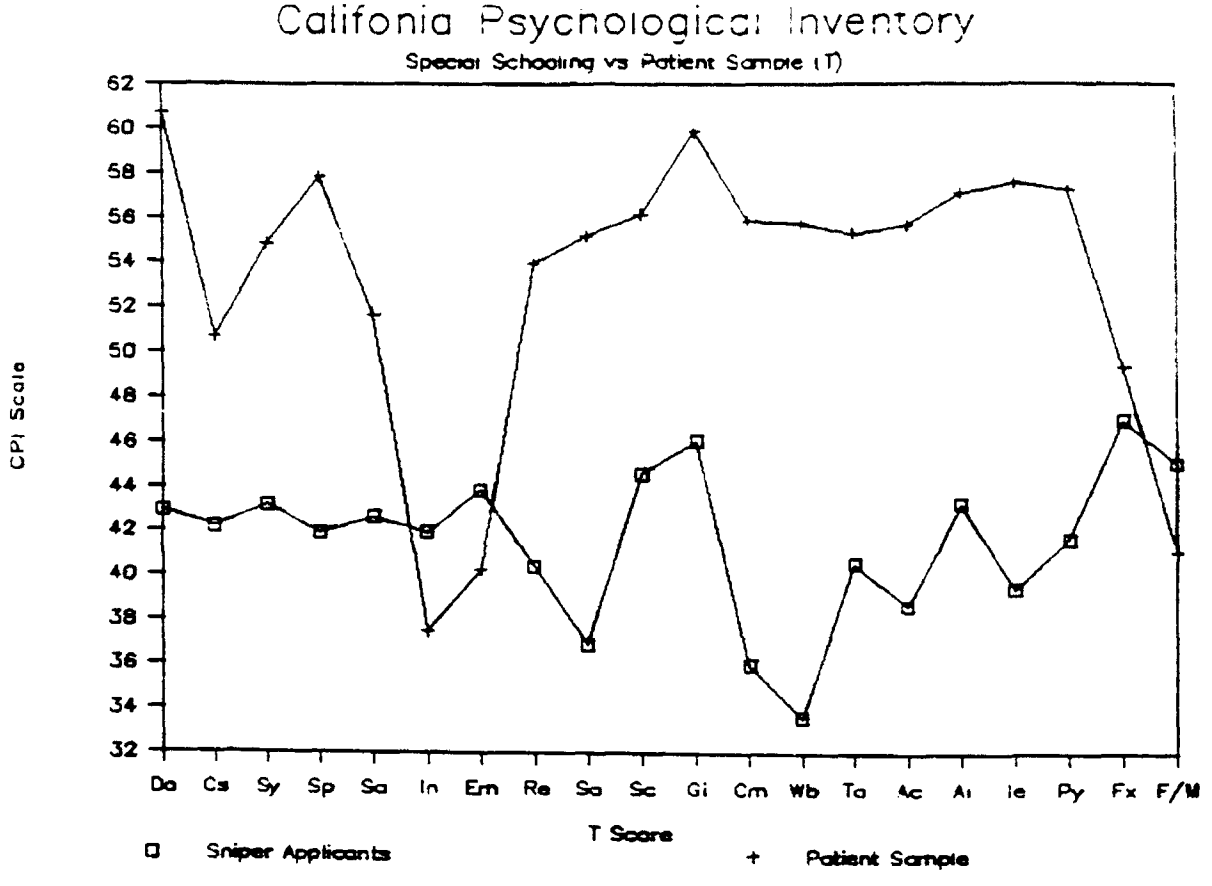
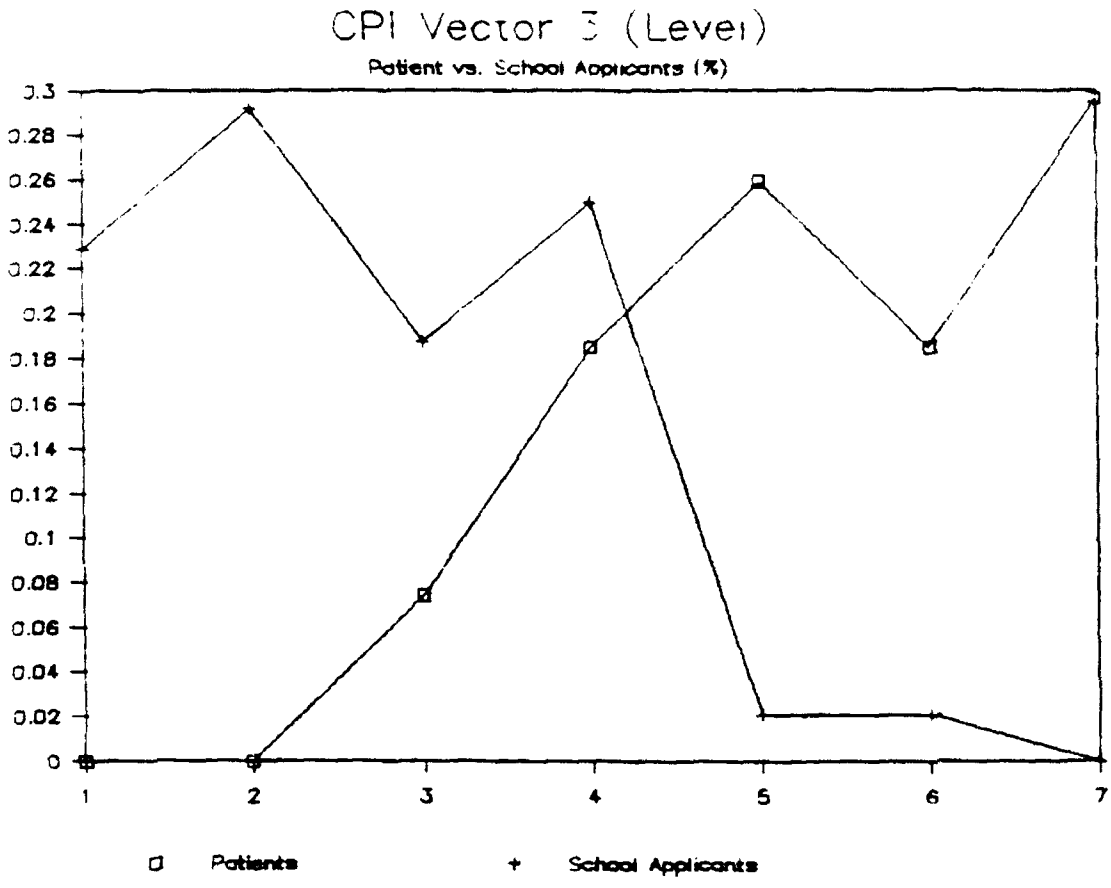

California Psychological Inventory
Special Schooling vs Patient Sample (T)
CPI Scale
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
Do Cs Sy Sp Sa In Em Re So Sc Gi Cm Wb To Ac Ai Ie Py Fx F/M
T Score
Sniper Applicants
Patient Sample

FIGURE 2


CPI Vector 3 (Level)
Patient vs. School Applicants (%)
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1
2
3
4
5
6
7
Patients
School Applicants

THE AMEDD PSYCHOLOGIST

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This pamphlet is a major revision of an earlier document prepared by Timothy B. Jeffrey, Ph.D.; E. R. Worthington, Ph.D.; A. David Mangelsdorff, Ph.D.; Andrew S. Martin, Ph.D.; Thomas R. Dorworth, Ph.D.; David Gillooly, Ph.D.; and Robert C. Hulsebus, Ph.D. It provides information and guidance in areas of concern to Army Medical Department (AMEDD) clinical and counseling psychologists. When appropriate, it cites references to relevant regulations. It should not be considered the final word since military regulations and policies are constantly changing.

YOUR CAREER AS AN AMEDD PSYCHOLOGIST

The broad functional areas of clinical/counseling, community consultation, and teaching characterize most positions held by AMEDD psychologists. Positions identified as primarily clinical are found in the Medical Department Activity (MEDDAC) and Medical Center (MEDCEN) Psychology Services. Those primarily interested in community psychology might receive initial assignments as staff members in MEDDAC and MEDCEN Community Mental Health Services (CMHS) or Mental Hygiene Consultation Services (MHCS) of Division Medical Battalions. Teaching positions exist at several military schools and at the internship and fellowship sites. Applied behavioral research opportunities are present in almost every assignment.

A typical career pattern for recently commissioned psychologists might look like this:

Years Service	Assignment	Grade
1st Year	Internship	CPT
2nd-4th Year	Staff Psychologist at a MEDDAC, CMHS, or MHCS	CPT
4th-5th Year	AMEDD Officer Advanced Course	CPT
6th-10th Year	Chief, Psy at a MEDDAC or CMHS or Staff Psy at a MEDCEN	MAJ
11th-20th Year	Chief, Psy at a MEDCEN &/or Internship Training Program; Major Command Consultant (HSC, MEDCOM, OTSG)	LTC

PROMOTION

Congress mandates the total number of officers the Army may have on active duty and the number of officers within each grade. Being promoted becomes more difficult as rank increases. Target promotion rates under the Defense Officer Personnel Management Act (DOPMA) are 80% for major, 70% for lieutenant colonel, and 50% for colonel. To be promoted there must be a vacancy and you must meet certain tenure criteria.

The primary determinant of eligibility for promotion is time-in-grade (TIG). The Army grants constructive credit for significant civilian education, training, and work experience. It is granted at a rate of 1/2 year credit for each year of education or experience. Constructive credit counts toward rank but not pay. If you entered the Army as a captain with a doctoral degree, you received constructive credit for your graduate education, enough to get you from second lieutenant to first lieutenant (18 months) and first lieutenant to captain (2 years). If you have significant postdoctoral experience, you may have credit allocated toward major.

PERSONNEL RECORDS MANAGEMENT

Selection for promotion, advanced schooling, and so forth, results from competition with peer MS officers. The basis for competitive comparison rests upon information provided in the Official Military Personnel File (OMPF). AR 640-10 describes what should be in this file. Only you can ensure that your records are accurate and up-to-date. Learn where your records are kept. Learn what should be kept in them, how to get it there, and how to remove information placed in them by mistake. In a sentence--management of your records is your responsibility. The following represent potential problems of which each psychologist should be aware:

a. There is no official photograph, or there is an outdated one (e.g., one that was submitted when applying for commission).

b. Appropriate Academic Reports of graduate schooling are not included. An Academic Report (DA Form 1059-1, Civilian Institution Academic Evaluation Report) is an official document prepared by a civilian educational institution (usually the faculty advisor) which serves the same purpose as the Officer Efficiency Report (OER).

c. Academic transcripts do not document degree completion.

d. The Area of Concentration (AOC) may never have been changed from intern or to licensed psychologist. Upon receipt of your doctorate and license, your personnel office should request AOC change (provided you are not in student-internship status). You must initiate this action!

e. Your Date of Rank may be in error.

f. An OER is missing. The entire time span of your military service must be accounted for in reports (e.g., OERs, Academic Reports, etc.) of some kind.

Since the standard Officer Record Brief (ORB) does not contain sufficient information for managing AMEDD personnel, two forms have been introduced to provide supplemental information. They are the AMEDD Professional Qualification Record, Parts I and II (DA Forms 4319-R and 4319-1-R). These forms are maintained in the Career Activities Office and are designed to provide career managers with information not available on any other DA form. Submission of them is the responsibility of each officer. AR 640-2-1, contains specific details on the use, preparation, and submission of this record.

DA Form 4319-R records information on membership and leadership in professional organizations, hospital or other teaching appointments, administrative appointments, professional awards, and continuing professional education. DA Form 4319-1-R records publications.

Make full use of your local personnel officer. He knows the system better than anyone. If you are unable to travel to Washington, D.C., to examine your MS branch file and your OMPF, you have two alternatives. First, you may appoint, in writing, a representative to examine your files for you. Second, you may write for a microfiche copy of your OMPF to: Commander, USATAPC-MSR-9, 200 Stovall Street, Alexandria, VA 22332-0400; AUTOVON: 221-8652.

REGULATIONS

Regulations are the laws of the Army. They carry almost the same weight as federal and state laws in civilian life and govern nearly every aspect of military life. Attempting procedures which are not in accordance with regulations can cause much frustration and difficulty. Newly commissioned psychologists, who are by training skeptical and independent, may have difficulty adjusting to military procedures because they fail to take into account the fact that practically everything they do, the time they come to work, the length of their hair, what they wear, and even the manner in which they set up their filing system, is covered by Army regulation. Neither all laws or regulations are necessarily sound, but ignoring them can be just as problematic for you as an Army officer as it is for you to ignore civilian laws. As in civilian life, ignorance of the law is not an acceptable excuse for failure to comply. Often, a psychologist will want to institute changes in procedure which will better serve clients. You will be well advised to seek counsel from staff colleagues to find out if current practices and procedures are (a) simply local custom, (b) the preferred method of your predecessor, or (c) are done that way because it is regulation (meaning "That's the law!"). You should reserve making changes until you know what the regulations are.

Regulations come from several sources: (a) U.S. Constitution, (b) Department of Defense (DOD), (c) Department of the Army (DA), and (d) Office of The Surgeon General/Health Services Command (OTSG/HSC). The highest source of regulation is the U.S. Constitution. Most constitutional rules applicable to the Army are repeated or amplified in DOD/DA regulations. DOD regulations apply to all four services; DA regulations apply only to the Army. The next level are those regulations emanating from the Army Medical Department (AMEDD). This source is The Office of the Surgeon General (OTSG). Many regulations from OTSG are written in broad terms to be clarified at subordinate levels by additional regulations written by specific commands and activities. Finally, the installation, hospital, or clinic may issue implementation procedures which are specifically applicable to that situation or setting.

A knowledge of regulations can help make your tenure in the Army pleasant and productive. Annual inspections conducted by teams from the Inspector General's Office (IG) may ruin an otherwise satisfying year if your filing system, records of property for which you are accountable, or other required documentation is not maintained according to regulation. Health care professionals often lament that..."the Army doesn't care about all the good work I do with patients, all they care about is the paper work."

A thorough knowledge of regulations can facilitate implementation of your ideas. Good ideas often fail to reach fruition, not because the idea was not feasible, but because the professional did not know (or ask) what regulations governed the procedures relevant to what was to be accomplished. Knowing the proper way (i.e., the way with the highest probability of success) to do something means knowing and working within Army regulations.

Time and effort devoted to understanding and working within the Army Regulatory framework will be well rewarded due to an immense reduction of frustration and the ability to do your job easier. Personnel and adjutant general offices normally have good regulation libraries and staff to assist you in using them.

The following is a list of regulations pertinent to behavioral scientists. The psychologist is encouraged to ensure that the most recent version and update is used.

PERTINENT REGULATIONS FOR THE BEHAVIORAL SCIENTIST

AR 40-1	Composition, Mission & Function of the Army Medical Department
AR 40-3 Chap 7	Medical Evaluation Boards and Sanity Boards
HSC Reg 40-3 & MEDCOM Reg 40-9	Use & Control of Psychological Test Materials
AR 40-42	Confidentiality
AR 40-48 & HSC, C3, MSR User's Manual NO. ADSM 18-HA1-RUD-MUS-UM Chapter 3 & Appendix H	Medical Statistical Reporting: Instructions for Counting Workload and Weighted Average for Psychological Tests
AR 40-66 (Chap 10)	Medical Records, Quality Assurance: The Dysfunctional Professional
AR 40-216	Neuropsychiatry & Mental Health
AR 40-501	Standards of Medical Fitness
AR 50-5	Nuclear Surety
AR 50-6	Chemical Surety
AR 135-101 C4 - P 1-6 (Clinical Psychology)	Appointment of Reserve Commissioned Officers for Assignment to Army Medical Department Branches
AR 195-6	Department of the Army Activities
AR 310-50	Authorized Abbreviations & Brevity Codes
AR 345-20	Release of Information
AR 600-20 Chap 5	Emergency or Involuntary Medical Care
AR 600-23	Line of Duty Investigations
AR 600-63 (1987) Chap 5	Health Promotion: Suicide Prevention & Psychological Autopsies
AR 600-85	Drug & Alcohol

AR 601-130 C2, Chap 8	AMEDD Clinical Psychology Internship Program
AR 604-5 AR 380-67 Update	Criteria for Security Clearances
AR 608-18 Update	Family Advocacy - Spouse & Child Abuse
AR 611-101	Officer MOS & Proficiency Designators
AR 611-201	Enlisted MOS
AR 614-200	Compassionate Reassignments
AR 623-105	Officer Evaluation Reporting System
AR 635-5-1	Personnel Separations
AR 635-40	Physical Evaluation for Retention, Retirement or Separation (e.g., TDRL'S)
AR 635-100	Personnel Separations: Officer
AR 635-100	Personnel Separations: Enlisted
DA Circular 40-90-1	Professional Specialty Recognition: Fee Reimbursement for the ABPP
TM-8-240	Psychiatry in Military Law
U.S. Civil Service Commission GS-180 Series	Psychologists Positions

INTERNSHIP

For almost 40 years the AMEDD has provided APA-approved internship training for psychologists. Training is offered at four locations (Walter Reed Army Medical Center, Washington, D.C.; Silas B. Hays Army Hospital, Fort Ord, Monterey, California; Tripler Army Medical Center, Honolulu, Hawaii (Army's newest program with start date of July 1990 and accreditation process to follow); and Dwight David Eisenhower Army Medical Center, Augusta, Georgia). The progression leading to successful completion of internship is summarized below.

Applications

Must meet the following criteria: (a) Be recipients of or candidates for a Doctorate in Clinical or Counseling Psychology from a school either APA-approved or acceptable to OTSG or have met standards outlined by APA for psychologists recertifying as clinicians, or (b) other eligibility requirements for appointment on active duty.

Selections are made on a best-qualified basis by a board of officers appointed by the Surgeon General. Criteria include (a) scholastic and professional standing; (b) intellectual, moral and medical fitness; and (c) compatibility of academic course content with internship content. Applicants are notified of acceptance in accordance with guidelines of the Association of Psychology Internship Centers (APIC).

Training. The scope and emphasis of training varies at each site. However, all training programs are built around core areas which specify basic skill attainment in the following: (a) clinical, (b) consultation, (c) teaching/training, and (d) program evaluation/research. These core skills enable graduates to function in a variety of settings and provide an effective range of mental health services. Internships provide training in psychodiagnostic assessment, psychotherapy, and organizational development. Specialty training in child and adolescent psychology, biofeedback, hypnosis, and behavioral treatment approaches is offered at selective sites. Each program emphasizes an individualized approach to training and provides frequent supervisory opportunities.

ASSIGNMENTS

How to Get What You Want (Sometimes)

Assignments are made by assignment officers at the MS Career Activities Office (CAO). These are determined in a team effort by the Psychology Consultant to the Office of The Surgeon General and the CAO assignments officer, considering the needs of the Army and the individual's desires. The Consultant serves as an advisor to the CAO and these people work hand-in-hand with you to direct your career in the best way possible.

In general, clinical and counseling psychologists (68S) are rotated like other (non-psychology) MS officers. Currently, this means that one can expect 48 months tour of duty in a given location.

Several months prior to completion of training, interns identify assignment preferences. Assignments are based on the graduate's area of competency, his or her interests, and available (open positions). Assignments do change without notice and just because something is not available at one

time, does not mean that it will not be available shortly. Opportunities exist in a variety of areas and locations and decisions need to be made by the officer as to his needs for the job and for the location. Assignments are available at the following locations:

AREA	MEDCEN	MEDDAC	CMHS	OTHER
Fort Wainwright, AK		X		
Fort McClellan, AL		X		
Fort Rucker, AL		X		X (6)
Fort Huachucha, AZ		X		
Fort Ord, CA		X		X (7)
San Francisco, CA	X			
Denver, CO	X			
Fort Carson, CO		X		X (7)
Washington, DC	X			X (2)
Fort Benning, GA		X		
Fort Gordon, GA	X		X	
Fort Stewart, GA		X		X (7)
Honolulu, HI	X			X (7)
Fort Ben Harrison, IN		X		X (2)
Fort Leavenworth, KS		X		X (4)
Fort Riley, KS		X		X (6,7)
Fort Campbell, KY		X		X (7)
Fort Knox, KY		X		
Fort Polk, LA		X		X (7)
Fort Meade, MD		X		
Fort Leonard Wood, MO		X		
Fort Bragg, NC		X		X (2,7)
Fort Dix, NJ		X		
Fort Monmouth, NJ		X		X (5)
Fort Drum, NY		X		X (7)
West Point, NY		X		X (1,3)
Fort Sill, OK		X		
Fort Jackson, SC		X		
El Paso, TX	X		X	
Fort Hood, TX		X		X (7)
San Antonio, TX	Joint		X	X (1,2)
Falls Church, (TAPC) VA				X (2)
Fort Belvoir, VA		X		X (2)
Fort Lee, VA		X		
Tacoma, WA	X			X (7)
Germany		X	X	X (2,7)
Japan		X		
Korea		X		X (7)

KEY:
1=Teaching
2=Command Consultant
3=Cadet Counseling Center
4=Disciplinary Barracks
5=USMA Prep School
6=Aviation
7=Division

POSTDOCTORAL EDUCATION

Postdoctoral Fellowship in Clinical Pediatric/Child Psychology

Two 1-year programs exist. They are conducted through the Psychology Service, Madigan Army Medical Center, Tacoma, Washington, and Psychology Service, Eisenhower Army Medical Center, Augusta, Georgia. It is designed for psychologists with at least one utilization tour, and provides intensive, supervised training in clinical work with children, adolescents, and families. It emphasizes skill development in assessment, intervention, utilization of community resources, and clinical administration. The specific program is tailored to the strengths, needs, experience and interests of each candidate. Hence, a candidate with a broad background in child psychology may elect to spend a substantial portion of the year developing skills in subspecialty areas such as child neuropsychology, pediatric consultation, and family therapy. A candidate relatively new to child psychology, however, would be required to develop basic knowledge/skills in child, adolescent, and family psychology.

Postdoctoral Fellowship in Health Psychology

This is a one-year program at William Beaumont Army Medical Center, El Paso, Texas. Its purpose is to train psychologists to develop and implement behavioral programs designed to promote and maintain health, prevent and treat illness, and identify etiologic and diagnostic correlates of health and illness (Matarazzo, 1982). The fellowship is designed with sufficient flexibility to satisfy diverse needs and interests while concurrently providing core training in coronary heart disease, pain management, headache, essential hypertension, and diabetes. Additional areas of exposure include: asthma, sleep disorders, Type-A behavior, smoking cessation, chronic obstructive pulmonary disease, stress management, relaxation training, hardiness, treatment compliance, HIV, anxiety management, arthritis, biofeedback, eating disorders, exercise fitness, and locus of control. The fellowship is organized around eight required and four elective rotations. Fellows complete anatomy, physiology, and pathophysiology classes at the University of Texas, El Paso and rotate through the Departments of Medicine (Internal Medicine, Cardiology, Neurology, and Hematology/Oncology) and Obstetrics and Gynecology.

Postdoctoral Fellowship in Clinical Neuropsychology

Two 13-month postdoctoral positions exist at Madigan Army Medical Center, Tacoma, Washington. The major objective of these fellowships is to produce clinical neuropsychologists by means of intensive study, clinical experience, and research. Fellows acquire basic knowledge in neuroanatomy, neurophysiology, neuropathology, neurosurgery, neurology, pediatrics, physical medicine, and rehabilitation. Clinical and experimental neuropsychology is heavily emphasized. Fellows are trained in the administration, scoring, and interpretation of a number of major neuropsychological assessment procedures. Each learns how to communicate findings and how to formulate appropriate recommendations on the basis of these findings. In this respect, fellows provide direct services to the MEDCEN staff and patients.

Applicants for Fellowship Training

Applicants should possess a 68S AOC, have attended or be scheduled for the AMEDD Officers Advanced Course, hold the rank of CPT or above with at least 2 years post-internship experience, and be in a career status (Regular Army or Volunteer Indefinite). Information about application dates and deadlines is sent to the field well in advance. Application (DA Form 3838) is submitted to Commander, U.S. Army Health Professional Support Agency, Education and Training Division, ATTN: SGPS-ED, 5109 Leesburg Pike, Falls Church, VA 22041-3258 and should include copies of all undergraduate and graduate transcripts and letters of recommendation. Further information may be obtained from the director of each individual program.

Continuing Health Education (CHE)

Each person in the AMEDD requiring CHE credit is normally authorized to attend one Army funded CHE experience each fiscal year (subject to availability of funds). This limitation does not apply to any course designated by OTSG as mission-essential or for which attendance is directed. You may be able to attend more than one Army financed CHE activity by participating in a program or conference (presenting research findings, chairing a symposium). These are funded differently (local education and research funds) and not counted as your one CHE experience. CHE is any educational experience directly related to an individual's assignment which is considered necessary to maintain currency in a specialty or skill. TDY travel for CHE is not a right; it is an opportunity that must be evaluated in terms of: time remaining in service, career intentions, timing and availability of appropriate educational opportunities, cumulative absence from the activity in a given fiscal year, and job performance.

MILITARY EDUCATION

Branch Officer Basic/Advanced (BOBC/BOAC) Courses

Newly commissioned AMEDD officers are required to complete BOBC, a 3-month course covering roles and functions of the AMEDD. It is held at the U.S. Army Academy of Health Sciences (AHS), Fort Sam Houston (San Antonio), Texas, which is also headquarters for the U.S. Army Health Services Command (HSC). Sometime between the fourth and fifth year of service, officers attend BOAC, a 6-month course which is also conducted at AHS. This is considered a permanent change of station (PCS) assignment. It covers much the same material as the BOBC, but is more detailed and more oriented toward the management functions of field grade officers.

Advanced military education available to AMEDD psychologists includes the Combined Arms and Services Staff School (CAS3), Command and General Staff College (CGSC), Armed Forces Staff College (AFSC), and Army War College (AWC). Generally, these and other military schools prepare officers to function at higher levels of command and staff within the Army.

HOW TO GET AHEAD IN THE ARMY: A SENIOR PSYCHOLOGIST'S VIEW

COL (Ret) Robert S. Nichols, Ph.D.

I. What Constitutes Getting Ahead in the Army
   A. Increased rank
   B. Acquiring professional credentials (ABPP, etc.)
   C. Acquiring professional reputation
   D. Getting better jobs
   E. Assuming greater responsibility

II. Methods of Getting Ahead
   A. CARDINAL RULE: Be competent and work hard.
   B. Be flexible. Do what needs doing. Fit yourself to the job, rather than the job to you.
   C. Grow in both skills and breadth of viewpoint.
   D. Seek out responsibility and show initiative.
   E. Think broadly, both within psychology and in the wider context of the Army.
   F. Be a specialist in a few areas relevant to Army needs, but don't limit yourself to these specialties. Be prepared for and comfortable in a generalists role.
   G. Support the Army Mission. You exist to support the Army. The Army does not exist to support you.
   H. Accept comfortably and fully your role as an officer. This implies administrative responsibilities. Don't demand a narrow professional role devoid of administrative and supervisory obligations.
   I. Accept your responsibilities as a trainer, educator, supervisor, and manager. Learn to work with and through others.
   J. Don't offend people needlessly by insisting on professional status and prerogatives.
   K. Get all the military education you can.
      1. Gives you a broader feeling for overall mission and scope of the Army.
      2. Broadens perspective of new areas where psychology can be helpful.
      3. Gives you useful contacts with other officers.
      4. Increases your overall skills.
   L. Get all the civilian education you can.
   M. Maintain contact with civilian psychology.

III. Things You Should <u>Not</u> Do
   A. Stay at one post too long.
   B. Expect the Army to fit your exact needs/preferences.
   C. Be a prima donna.
   D. Push "Ph.D.," "pro pay," and "professional" roles too hard.
   E. Offend fellow MS officers.
   F. Limit role and contacts to the AMEDD--you are here to serve the Army; don't stick to medical activities only.
   G. Do not expect a coherent, long-range Army psychology program. We simply cannot maintain enough career personnel to build long-range, Army-wide programs. (Editor postscript: This has been done by several unique individuals who have had the drive to complete it.)
   H. Don't ignore your personnel records. If you don't check their accuracy and completeness, no one else will.

IV. The Rewards

A. Interesting, challenging, and often novel assignments.

B. Diversity of assignments.

C. Excellent educational opportunities.

D. Professional autonomy.

E. Increasing status.

F. Reasonable pay.

G. Retirement, at a relatively young age (43-52) with a good income and with skills and experiences that make it easier to start a second career.

H. Excellent fringe benefits (travel, medical care, widow's pension, etc.).

I. Considerable time off for recreation (Leave and TDY).

J. Job security and a chance to try new professional roles.

V. Disadvantages

A. Frequent moves.

B. Some handicap for children, especially as they reach late high school and college age.

C. Some role ambiguity.

D. Some unpopularity--civilian psychologists are sometimes critical of military ones.

E. Potential problems if your spouse has career goals and interests which conflict with your need to remain mobile.

F. Bureaucratic inertia and rigidity.

SPECIAL CONCERNS

Licensure

Effective July 18, 1988, all Army psychologists were required to be licensed or within 3 years following internship (as per MSG HSC 3 Nov 88).

The Medical Proficiency Designator

Army Regulation 611-101 identifies higher levels of qualification within psychology. Psychologists may be awarded a number "9" (indicating proficiency is in a medical area), and letters A, B, C, and D to designate degrees of proficiency. The following criteria apply:

, -- Determination by OTSG Classification Board on an individual basis.

B -- Doctoral degree and 8 years postdoctoral experience; or certification by a recognized national professional board (e.g., ABPP, ABPH).

C -- Doctoral degree plus 4 years postdoctoral experience.

D -- Doctoral degree plus one year postdoctoral experience.

Malpractice Liability

Can you be sued? Public Law 94-464 (The Gonzalez Act) October 1976, provides that suits for damages for personal injury caused by the negligent or wrongful act or omission of medical personnel of the Armed Forces of the United States, while acting within the scope of official duties or employment must be brought against the United States rather than the individual. This law protects you in your official capacity as an Army psychologist and all aspects of your legitimate practice in the Army. If you are practicing independently during non-duty hours, you are not protected by PL 94-464. Psychologists with outside interests should consider malpractice insurance.

Maintenance and Disposition of Records

Briefly described are files most frequently kept by AMEDD psychologists. For information on maintenance and security for these files, consult AR 40-216.

File No.	Description
40-216	Health Record Files - AD service personnel
40-216e	Clinical Psychology Case Files
	Alcohol and Drug Rehabilitation Files
	Child Protection Case Management Files
	Military Consultation

Privileged Communication: A Problem for Military Psychologists

In 1980, a military psychologist was officially reprimanded by APA for violation of confidentiality in that he released a report to a patient's supervisor without written permission from the patient. The patient was active duty and was command referred.

Relevant facts.

a. Had the reprimanded psychologist not been a member of APA, he would not have been found guilty of an ethical violation.

b. Effective July 18, 1988, all DOD psychologists are required to maintain an active state license (DOD Directive No. 6025.6, July 18, 1985).

c. All 50 states adhere to the APA Ethical Principles of Psychologists. Failure to adhere to these principles by a state licensed psychologist, even if the individual is not a member of APA, can result in restriction and/or loss of license (e.g., Texas Psychologists Certification and Licensing Act, 1986).

d. Loss of license can serve as grounds for decredentialing and reclassification (AR 430-66, 01 Apr 87).

e. DOD directives and ARs do not require consumer's signature for release of information to employees within DOD with an official need to know (AR 340-17, 01 Oct 82; AR 340-21, 05 Jul 85; AR 600-20, 20 Aug 86; AR 635-40, 13 Dec 85; AR 635-200, 20 Jul 84; DOD 5400.7, 24 Mar 80; DOD 5400.11, 04 Aug 75; 5 U.S.C. Sect 552).

It is proper for military psychologists to release information (abstracted in writing from records) on patients to DOD employees with a need to know and to do so without the patient's written consent. Such action violates the APA Code of Ethics. No where is "need to know" defined.

Recommendations.

a. All consumers seen by AMEDD psychologists should be advised of the limits of confidentiality of psychological information. This should be done at the beginning of a clinical contact with a patient and documented in writing.

b. Whenever possible, AMEDD psychologists should obtain written patient consent before releasing information.

Nuclear and Chemical Surety Program

A yellow cover sheet (DA Form 4515) identifies the health records of personnel in the nuclear or chemical surety program. On it are listed a number of disqualifying conditions. As a general rule, health care practitioners must report all professional contacts with program participants to the individual's commander. In effect, personnel in these programs have voluntarily given up many rights to privacy. Some of the criteria for reporting are (AR 50-5 and AR 50-6):

1. Any medical condition or history of illness which may be prejudicial to the reliable performance of nuclear or chemical duties.

2. Alcoholism or overindulgence in the use of alcohol.

3. Illegal, wrongful, or improper use of any narcotic substance, marijuana, or its derivatives, or dangerous drugs; or the illegal or wrongful possession, transfer, or sale of any of these substances.

4. Behavioral characteristics.

a. Lack of-emotional or mental maturity and/or a sense of responsibility.
b. Evidence of inadequate group and/or social adjustment and relationships.
c. Financial and/or family irresponsibility.
d. Lack of ability to exercise good judgment.
e. Behavior patterns suggesting contemptuous attitudes toward the law.
f. Evidence of significant defects in judgment or reliability.
g. Negligence or delinquency in the performance of duty.
h. Evidence of objection to the bearing and using of arms when necessary.
i. Poor attitude or lack of motivation toward an assignment involving nuclear duties.

Command requests for assessment will be on DA Form 3180. If one of the above conditions is found or suspected, DA Form 3349 will be completed, attached to DA Form 3180, and returned to the service member's commander. Only nuclear or chemical unit commanders have the authority to rule on an individuals' fitness for duty.

Research

All MEDCENs and some MEDDACs have a clinical investigation department. It should be consulted when planning any research (AR 40-38).

Professional Organizations and Associations. The most prominent organizations to consider joining are APA, Division 19 (Military Psychology), and the Association of Army Psychologists (AAP). These organizations provide opportunities for communication with colleagues and each publishes a newsletter. A Division 19 ad hoc committee of uniformed psychologists offers continuing information exchange among health care providers representing the Army, Navy, and Air Force.

Off-Duty Employment. Before engaging in off-duty work, service members must have permission from unit commanders (AR 40-1, AR 600-50). Part-time teaching is generally encouraged, while obtaining permission to engage in off-duty clinical endeavors is often discouraged. Some of the stipulations which must be met are:

a. No member of the AMEDD shall advise, recommend, or suggest to any person authorized to receive health care service in an Army facility, or at Army expense (this includes dependents), that that person should receive services from the member when he is not on duty, or from a civilian associated in practice with the member-unless it is at no cost to the patient, the government, or anyone else.

b. AMEDD psychologists cannot treat anyone for remuneration who is eligible to receive services in a military facility, or through CHAMPUS.

c. Active duty officers are in a 24-hour duty status every day and military duties take precedence over other obligations.

d. Written requests for civilian employment must be submitted and approved in advance by the unit commander. Those that exceed 16 hours a week will usually be denied.

e. Administrative absences will not be granted for the purpose of engaging in civilian employment.

f. Civilian employment will be conducted entirely during nonduty hours.

g. A letter from the local professional society expressing no objection to such employment will be a required attachment to the request. This letter must also certify to the need and to the fact that such service is not available from any reasonable civilian source.

h. The psychologist must meet state licensing requirements.

i. Approved requests will be reviewed at least annually by the commanders concerned.

j. Questions about propriety, conflict of interest, or legality of off-duty employment should be discussed with commanders and local judge advocates.

CONCLUSIONS

This document is not meant to be the answer to all questions. In fact, it may have created more questions than it answered. It is certainly not perfect and input to modify, improve or change any part of it is welcome. It is hoped that it can be useful, especially to new AMEDD psychologists who may be confused by the intense bureaucracy of the Army. In addition, things are changing quite fast and, unfortunately, some of the information may be outdated ever before this is disseminated to each of you. That is expected, but certainly not tragic as you can write and change it as necessary. All comments are welcome and solicited to improve this paper.

SURVEY RESULTS: IMPORTANT ISSUES FOR ARMY PSYCHOLOGISTS

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Army psychology faces a continuous struggle to survive within a climate of changing political realities. Surveys were mailed to all active duty psychologists seeking their evaluation of the relative importance of current professional issues. The issues presented were taken from recent Army psychology newsletters. Psychologists were asked to evaluate the topics according to their perceived effect on retention, recruitment, morale, and personal career decision making. The input from this survey is being used by the Office of The Surgeon General (OTSG) psychology consultant to help formulate goals and strategies for the next few years. This article summarizes and tabulates the survey results.

METHOD

Subjects

The survey was sent to 124 active duty psychologists and selected reservists from a computerized mailing list provided by OTSG.

Procedure

The issues to be evaluated were taken from psychology consultant newsletters and will be referred to by number throughout this report:

1. Prescription writing, training and credentialing.
2. Ability to sit on sanity, competency, or medical boards.
3. Disparities among psychology practices in the Army, Navy, and Air Force.
4. Updating ARs to reflect DOD directives on psychology practices.
5. Independent psychology departments at MEDCENs.
6. Creation of O-6 authorizations.
7. Specialty skill designators for neuropsychologists.
8. Dedicated neuropsychology slots at medical centers.
9. Increased assignment opportunities outside the AMEDD.
10. Creation of a separate "Health Care Providers" corps.
11. Separate promotion boards for 68 series officers.
12. ABPP diplomate pay.
13. Professional pay for licensed psychologists.
14. Increased promotion rates for psychologists.
15. APA continuing education sponsorship of AMEDD psychology short courses.
16. Increased short course funding.
17. Increased fellowship slots.
18. Long term civilian training slots for officers transitioning into psychology programs.
19. Health professions scholarships for psychology graduate school.
20. Increased fellowship opportunities earlier in career.

Respondents were asked to determine which issue was deemed the most important for Army psychology in terms of morale, retention, recognition, personal career planning, and long term growth of Army psychology. In addition, psychologists were given the opportunity to provide the OTSG psychology consultant with their personal views about these issues. All of the comments submitted were forwarded to LTC Laskow for his review. Response frequencies for each issue were tabulated, thereby providing the OTSG consultant with an estimate of the popularity (easy to measure) rather than the correctness (hard to figure) of each issue. Respondents were also given the opportunity to indicate which items were not important or even a mistake to pursue. An arbitrary limit of three responses per question was imposed.

Sample Characteristics

Fifty-nine psychologists responded to the survey. There were 53 men and 6 women in the sample. The rank structure of the respondents was: COL = 2, LTC = 13, MAJ = 15, CPT = 29. Time in service ranged between 3 months and 32 years, with 20+ as the modal category (older guys have more time for answering surveys?). Thirty of the respondents indicated that they plan to retire from the Army, 10 answered that they would definitely get out, with the remaining 19 cast into the undecided category. Fifty-two of 59 respondents have completed their degree and 42/57 were already licensed.

RESULTS

The data represents the frequency with which each item was endorsed. For each question, items not listed received a response frequency of zero. The total number of responses is different for each question because many respondents gave more than one answer. Up to 3 answers per question were tabulated for each respondent. Questionnaires with more than 3 answers were kindly ignored to save wear and tear on my calculator.

1. Which topic do you believe is the most important in terms of morale of psychology officers?

Item #	Frequency of Endorsement
2	3
3	1
4	1
5	8
6	4
11	5
12	3
13	28
14	22
16	2
20	1

2. Which topic do you believe is the most important in terms of retention of psychologists?

Item #	Frequency of Endorsement
2	1
3	1
4	2
5	1
6	6
9	2
10	2
11	11
12	1
13	21
14	25
17	1
20	2

3. Which topic do you believe is the most important in terms of recognition for psychologists?

Item #	Frequency of Endorsement
1	3
2	10
3	1
4	6
5	20
6	6
9	3
10	4
11	3
13	11
14	3

4. Which topic do you believe is the most important in terms of personal career decision making?

Item #	Frequency of Endorsement
1	2
2	1
6	5
8	1
9	4
10	1
11	1
12	1
13	3
14	12
15	2
17	4
20	12

5. Which topic do you believe is the most important in terms of the long term growth of Army psychology?

Item #	Frequency of Endorsement
1	2
2	5
3	2
4	5
5	5
6	11
9	4
10	7
11	1
13	4
14	7
15	1
16	1
17	1
18	1
19	4
20	2

6. Which of the topics do you believe is the most important in terms of recruitment of new psychologists?

Item #	Frequency of Endorsement
1	2
3	3
6	1
10	1
13	3
14	1
16	2
17	1
18	12
19	40
20	4

7. Which of the topics do you believe is the single most important issue for the OTSG consultant to pursue during the next 4 years?

Item #	Frequency of Endorsement
1	4
2	1
3	1
4	6
5	7
6	6
10	6
11	2
12	2
13	18
14	11
19	2

8. Which of the topics do you believe is the least important to pursue?

Item #	Frequency of Endorsement
1	17
3	9
7	2
8	1
9	6
10	7
11	1
12	2
15	1
16	1
17	2
18	7
20	3

9. Do you consider any of the proposed initiatives to be a mistake, something that should not be pursued?

Item #	Frequency of Endorsement
1	22
3	1
8	1
9	3
10	5
11	1
12	1
18	1
20	1

DISCUSSION

Psychologists who responded to this survey clearly believe that professional pay and improved promotion opportunities are the issues which will build morale. Comments from respondents make it clear that these issues are not just a matter of money, but represent the identification of psychology as an important profession within the Army. These results are not surprising as they reflect the same motivators endorsed in previous surveys (Mangelsdorff, 1978, 1985). During the past few years, the chances for promotion appear to have decreased rather than increased due to requirements for resident advanced course attendance, CAS3, and other institutional biases which have resulted in a low promotion rate to major. There does not appear to be any optimism about immediate prospects for professional pay. It may be difficult to maintain the morale of psychology officers over the next few years in the absence of progress on these two key issues, which require action at the DOD or congressional level.

The issues of professional pay and promotion are also dominant in perceived effectiveness on the retention of psychologists. Of the other issues relevant to morale or retention, the need for separate promotion boards for 68 series officers, independent psychology departments, and more O-6 authorizations were frequently mentioned items. Since creation of independent departments of psychology is already occurring, this may represent some hope for improved morale and retention in future years.

Increased recognition for psychologists is seen to be related to independent departments, professional pay, and the ability to participate in sanity, competency, or medical boards. With the exception of pay, these issues seem to be evolving in a positive direction. The increasingly autonomous professional role afforded psychologists will cost nothing and will be beneficial to both the organization and the individuals involved. The ability to be independent in thought and action and increased responsibility were identified by Mangelsdorff in 1985 as key motivators for psychologists in the Army.

Personal career decision making was seen to be related to a variety of issues. Enhanced opportunities for fellowships and improved promotion rates were the most commonly endorsed items. There was a tendency for captains who were unsure about their career status to rate fellowships as a career decision making incentive. Comments from respondents indicated that the ambiguity of promotion potential was a very strong factor causing officers to look outside the Army for a secure future.

Long term growth for Army psychology was seen to be related to many of the same issues, with the strongest endorsement for more O-6 slots, increased promotion opportunities, and a separate Health Service Providers Corps. The comments related to all of these indicate that they are seen as fixing inequities in the way psychologists are treated in comparison to physicians.

Health professions scholarships and long term training were both seen as important tools for recruiting psychologists. Several respondents pointed out that these two techniques have been successfully used to recruit psychologists in the past. It seems that the Army's unwillingness to make a long term commitment to either one of these methods or to fund them remains as the obstacle to their success. Several respondents made comments indicating that

these programs should be a major focus, as they provide the psychology consultant with a tool to enforce quality control in selecting our officers.

The officers responding clearly believe that professional pay and increased promotion rates are the most important items for the consultant to pursue over the next 4 years. These two items are perceived to have a wide ranging effect on morale, recruitment, retention, and positive growth for Army psychology.

The least important initiative was the pursuit of prescription writing, training, and credentialing. A surprising number of psychologists also expressed the opinion that differences among Army, Navy, and Air Force psychology practice ought to remain in place. Fostering a distinct rather than a "purple suit" brand of Army psychology was seen as desirable.

The only item frequently responded to as a mistake was the prescription writing initiative. Half of the field grade officers saw this action as a clear mistake. They tend to argue against it on the grounds that: (1) it puts us under medical supervision as a physician extender rather than an independent professional, (2) it is a battle that will alienate the medical establishment, (3) we can't win this battle at the credentialing level anyway, and (4) it really is inappropriate for non-medically trained people to prescribe medication. Several respondents stated that pushing this issue may provoke a backlash from the medical establishment that could be the end of Army psychology.

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PANEL

ADMINISTRATIVELY SEPARATE PSYCHOLOGY SERVICES: CURRENT AND FUTURE ISSUES

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The National Defense Appropriations Act for Fiscal Year 1988 required the establishment and evaluation of a separate Department of Psychology at an Army installation. A separate psychology service was established at Walter Reed Army Medical Center on May 1, 1988. An implementation plan and evaluation program were required. This symposium will detail the evaluation of the separate psychology service at Walter Reed Army Medical Center from May 1988 through April 1989. Administrative (functional) and organizational (process) issues will be addressed. Guidance for the creation of other separate Psychology Services will be offered.

CREATION OF ADMINISTRATIVELY SEPARATE PSYCHOLOGY SERVICES: CURRENT AND FUTURE ISSUES

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The National Defense Appropriations Act for Fiscal Year 1988 required the establishment and evaluation of a separate Department of Psychology at an Army installation. A separate psychology service was established at Walter Reed Army Medical Center on May 1, 1988. An implementation plan and evaluation program were required. This report will detail the evaluation of the separate psychology service.

Precedents for Separating Clinical Psychology From Departments of Psychiatry

Recognition of the range of contributions made by psychologists in the delivery of health services has resulted in the establishment of separate psychology departments or services in several medical schools and health care centers. The Department of Medical Psychology at the University of Oregon Health Sciences Center was established in 1961. Departments of Medical Psychology function well at the Uniformed Services University of the Health Sciences, the Veterans Administration, and at the University Medical Schools in Florida, U.C.L.A., and other places (Lubin, Nathan, Matarazzo, 1978). A separate Psychology Department was established at the Naval Hospital, Bethesda, Maryland, in 1987; it continues to function well.

METHOD

Missions, personnel, and organizational structure were defined for the Walter Reed Army Medical Center (WRAMC) Psychology Service. Productivity measures were examined. Quality measures of complaints, staff satisfaction, patient satisfaction, access, and external/internal quality review were conducted.

Surveys were developed to determine (1) information about the clinic missions, personnel, and organization; (2) productivity measures of workload; and (3) quality measures of staff satisfaction and patient satisfaction. The surveys were administered during each quarter. Open ended questions were used to compare retrospectively how the service operated before becoming separate and after establishment of the separate Psychology service. Psychiatry staff members were surveyed for comparison as well.

FINDINGS

PSYCHOLOGY MISSIONS, PERSONNEL, AND ORGANIZATION

The overall missions of the psychology service at Walter Reed Army Medical Center are (1) to coordinate psychological services for all patients and provide the highest standards of quality patient care, and (2) to conduct a clinical psychology internship training program and support the various medical residency and fellowship programs. These services include evaluation,

diagnosis, treatment, consultation, referral, and disposition. The Psychology Service is one of 18 separate departments and services reporting directly to the Deputy Commander for Clinical Services.

Personnel and Organization

The Psychology Service is organized into several sections: Psychiatric Inpatient and Neuropsychology, Outpatient and Pediatric Psychology, Behavioral Medicine Consultation, and Training and Research. Workload is not broken down by section, but is summarized as Psychology Service. Figure 1 summarizes the organizational structure and personnel.

PRODUCTIVITY MEASURES

Patient Administration Systems and Biostatistics Activity, HSC (PASBA) extracted workload measures from the MED 302 reports for inpatient visits, outpatient visits, and psychological tests for calendar years 1987, 1988, and 1989. There is not a mechanism now available to track referrals and consultations to the Psychology Service from other clinics at WRAMC. There were differences between the internal accounting monthly workload totals and those reported by PASBA; the differences could not be reconciled.

QUALITY MEASURES

Survey instruments were used to measure staff satisfaction and patient satisfaction. The staff satisfaction surveys were administered each quarter. Staff turnover was documented. Interviews on site with staff and support personnel were conducted.

Psychology Staff Satisfaction

Responses to the 7-point Likert scale items showed that the psychology staff was most satisfied with the "Staff emphasis on providing quality patient care," "Extent to which staff is encouraged to be self sufficient," "Knowing what is expected of them daily," and "Having the support of their coworkers and supervisor." Issues of significant dissatisfaction included "The availability of adequate support personnel," "The availability of adequate equipment supporting my job," and "The extent the physical surroundings contribute to staff satisfaction with the work environment."

Psychology Under Psychiatry

Responses to the open ended question retrospectively describing how the Psychology Service operated before becoming a separate service were quite revealing. The Staff Psychologists felt they were treated as second class personnel who were not accorded professional respect or recognition. Inequities were perceived in terms of the availability of support personnel, TDY funding, supplies and equipment the psychologists received, patient charting, and administrative procedures. Psychological services were not fully recognized or used. Psychiatry staff were not as supportive as they could have been. The Interns reported feeling little primary responsibility, as the patients were staffed through Psychiatry.

Separate Psychology Service

After the separation occurred, respondents from the Psychology Service felt they had significantly more control over their own resources, equipment, funds, and missions. The staff morale was perceived as greatly improved, particularly among those who had previously worked under Psychiatry. With

successive surveys, the overall levels of staff morale were perceived to increase. Significant personnel turnover, lack of replacements, retirement of key personnel, and illnesses were notable during the test period.

As perceived by the Psychology staff, the relationship of the Psychology staff with Psychiatry remains good at the personal level, but cool at the organizational level. Professional cooperation continues, though some tension is present. More support staff are needed for both Psychology and Psychiatry.

The Psychology staff reports gaining confidence in its abilities. The positive effects of being able to control Psychology Service budgetary and manpower resources seem to be greater than the additional administrative workload and responsibilities incurred by being separate. Greater interdisciplinary cooperation on patient care is developing as more contacts with other departments are occurring. More interdisciplinary training opportunities are needed.

Department of Psychiatry Staff Perceptions

Psychiatry staff satisfaction surveys were administered by the Department of Psychiatry; the response rate was representative (6 of 11 officer staff, 14 of 27 trainees; 21 responses were used). The officer staff reported the most satisfaction with the issues of "The support of my supervisor," "Having colleagues available for professional growth and development," "My liking my present position," and "The staff emphasis on providing quality patient care." The officer staff reported the least satisfaction with "The availability of adequate support personnel" and "Having opportunities available to work off duty (e.g., moonlight)."

The Psychiatry residents in training reported the most satisfaction with "The support of my coworkers," "Obtaining licensure/certification while on active duty," and "The amount of responsibility given to me." The trainees reported the least satisfaction with "The availability of adequate support personnel," "Having opportunities available to work off duty (e.g. moonlight)," "The availability of adequate equipment supporting my job," "Having a supportive duty environment," "The extent management is supportive of the staff," and "The extent our staff receives cooperation from other departments."

For the Psychiatry staff, the lack of support personnel and adequate equipment was a concern. With the establishment of the separate Psychology Service, psychological testing of patients was not as accessible nor were there as many referrals made to Psychiatry as previously. Psychiatrists were concerned whether psychologists could make appropriate assessments, particularly of organic conditions. Several staff psychiatrists expressed disapproval of the separate Psychology Service, believing the psychologists to be delusional in their euphoria. Many of the issues raised by the Psychiatry staff echoed concerns expressed by the American Psychiatric Association regarding the abilities of psychologists to function as independent practitioners.

As perceived by the Psychiatry staff, the relationship of Psychiatry with Psychology appears good at the personal level, but distant at other levels. Multidisciplinary patient care consultation continues. There was support from Psychiatry for the establishment of a Department of Mental Health which would foster multidisciplinary approaches and more comprehensive mental health care. Some physicians believed they should supervise, direct, rate, and command all

professional staff. It was felt Psychology interns would not be exposed to as diverse a mixture of patients. Many Psychiatry staff members felt little had changed or were not aware of any differences since the separation.

Psychology and Psychiatry-Staff Perceptions

ANOVAs were conducted between the staff satisfaction survey responses of Psychology and Psychiatry staff members. There were differences between Psychology and Psychiatry for "The availability of adequate support personnel," "The extent management is supportive of the staff," and "The extent our staff receives cooperation from other departments." There were differences between the types of staff members for "The extent the staff know what is expected of them daily." There were no significant interaction effects in the 2x3 ANOVAs.

One-way ANOVAs were conducted between selected groups of Psychology and Psychiatry staff. There were significant differences between the officer Staff members on "The availability of adequate support personnel" ($p = .026$), "The amount of responsibility given to me" ($p = .020$), "The extent to which staff is encouraged to be self sufficient" ($p = .049$), and "The extent our staff receives cooperation from other departments" ($p = .001$). There were significant differences between the In Training personnel with respect to "The extent our staff receives cooperation from other departments" ($p = .001$) and "The extent management is supportive of the staff" ($p = .013$). The psychology staff members were significantly more satisfied for all items reported.

Future Expectations for Separate Service

The open ended question for expectation in the future showed much optimism and hope. The Staff Psychologists expected to feel professionally respected and well utilized. Expectations were to have more timely fiscal support and control over support personnel, TDY funding, supplies and equipment, psychological treatment charts and procedures, continuing education programs, professional recognition, and respect. More psychological services were expected to be provided to enhance the quality of patient care. Professional health care services to referred patients were anticipated to be enhanced. The separate service was expected to enhance the psychologists' self image and professional pride. The autonomy should provide opportunities for creative leadership, self determination, professional growth, control over professional career, and more avenues for advancement. There was an expectation for more time being spent in administrative duties and hospital committee meetings. The interns felt they would be more autonomous concerning patient care and be able to show more initiative in terms of patient care and research. The Assistants/Administrative staff were concerned about making future deadlines and requirements without additional support personnel. Work levels were projected to increase. Greater opportunities for professional give-and-take were expected. More research opportunities were deemed possible. Psychology staff cohesion and morale were expected to increase.

Future Issues

Separate Psychology Services will be established at other medical centers having training programs. The separate services will have to be configured to specific staffs, available resources, and missions. Professional competition between specialty groups has to be put aside for promoting the general mission of the Army medical community; to sustain the fighting force.

REFERENCE

Lubin, B., Nathan, R.G., & Matarazzo, J.D. (1978). Psychologists in medical education: 1976. American Psychologist, 33(4), 339-343.

FIGURE 1

ORGANIZATIONAL STRUCTURE OF WRAMC PSYCHOLOGY SERVICE

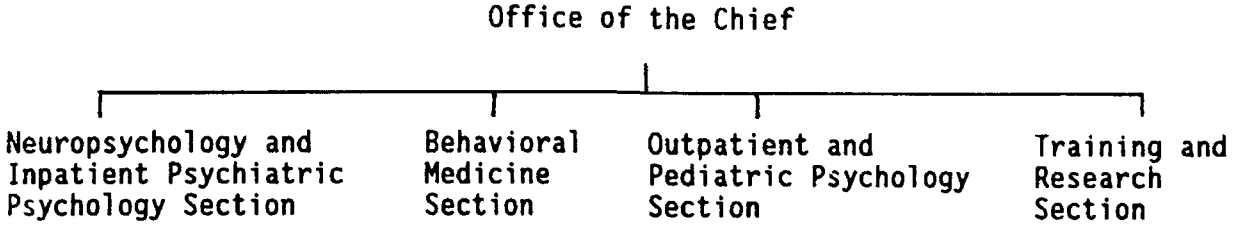

Table 1

MED 302 Monthly Workload for WRAMC Psychology Service
Prepared by Patient Administration Biostatistics Activity

CY 1987	01	02	03	04	05	06	07	08	09	10	11	12
Inpt Vs	147	092	159	156	112	128	141	141	099	140	128	103
Outpt Vs	313	401	375	414	344	301	379	378	323	309	247	218

CY 1988	01	02	03	04	05	06	07	08	09	10	11	12
Inpt Vs	131	167	128	192	227	180	167	280	172	164	327	389
Outpt Vs	391	611	655	478	577	552	502	416	451	258	915	765
Psy Test	257	314	489	519	496	540	479	670	489			

CY 1989	01	02	03	04	05	06	07	08	09	10	11	12
Inpt Vs	319	398										
Outpt Vs	853	787										
Psy Test		675										

Note: Inpt Vs = Inpatient Visits
Outpt Vs = Outpatient Visits
Psy Test = Weighted Work Units/Psychological Tests

WALTER REED ARMY MEDICAL CENTER SEPARATE PSYCHOLOGY SERVICE: THE WAYWARD ADOLESCENT GROWS UP

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The Psychology Service of the Walter Reed Army Medical Center (WRAMC) established an administratively separate service in May of 1988 and has been subjected to a comprehensive evaluation by the U.S. Army Health Care Studies and Clinical Investigation Activity, U.S. Army Health Services Command (HSC) which completed the study in May 1989. Results have been staffed through The Office of the Surgeon General, U.S. Army and forwarded for a final report to Congress. Recall that the separate psychology service was a Congressionally mandated initiative for all psychology services throughout the entire DOD Health Care System and where there were training programs at these Services. In addition to psychology, the same Congressional language established a separate Optometry Service at the Tripler Army Medical Center and a similar evaluation study was performed with results forwarded to Congress.

Now, more than a year later, the Psychology Service at WRAMC is looking back at this process and assessing the effects on structure, training, resources and health care delivery. I would like to address each of these separately; however, let me state that this historical action represents the effects of many psychologists in uniform and many of whom have retired and who have long recognized and advocated for the independent practice of psychology as a health care provider status within the military. Furthermore, this initiative similarly illustrates the effectiveness of properly and strategically placed Congressional legislative language which, in this instance, become a part of a broader legislative package addressing the non-physician health care provider pool. Clearly, traditional medicine's provider's boundaries of health care are in a profound state of flux and redefinition as a result of this legislation. I often suggest in later phases of these historical events that newer professions within health care will emerge along the way and in many instances, as offsprings or perhaps mutations of the profession of psychology.

As I found myself developing my own perspective on the growth of our Psychology Service as a result of the separation, it occurred to me that this progress is not unlike that of an adolescent who has recently departed home and not under the most amicable of circumstances. Expanding this metaphor further, at the risk of oversimplifying the process, it also occurred to me that the initiative was like that of a court imposed removal of the adolescent from the family following clear and unequivocal evidence that the welfare of the adolescent had long been compromised and in some instances, significant aggressive and abusive relationships existed. Several times previously, the adolescent had attempted to run away only to be returned to the fold by a more powerful and non-advocating authority base. In some instances, the adolescent made bona fide attempts to negotiate for expanded freedom or movement and privileges with varying degrees of success yet, in each outcome, with the clear and constant reminder of his or her proper place in the mental health family's structure. On occasion, there might have been some acting out episodes and refusals resulting in punitive, report-card like consequences only further

solidifying the adolescent's position of rebelliousness at the next opportunity and the reaffirmation of the parental figures' antagonistic posture.

Whatever the precipitant, the adolescent finds himself gone from the former environment, intoxicated by a sense of freedom and perhaps a false sense of potency. Yet, in short order, some of this enthusiasm wanes and perhaps the reality of the new independence begins to have its true impact producing a sense of uncertainty, uneasiness and ambivalency about having left home. Ironically, the oppressive and demanding environment may actually have obscured his/her dependency on the family. The departure, however, was rather abrupt and may not have allowed for proper planning and sensing of issues resulting in a vacuum of a style of life. Absent were the fundamentals of substance and resources and little or no structure for charting one's life. In order to survive, but perhaps more importantly, to save face, emphasis was placed upon maintaining personal integrity and reputation at a time when errors draw quick and scathing "I told you so's," and pride may become the dominant emotion. The adolescent continues to struggle knowing full well that he dares not return to the family in any way whatsoever after having fought so hard to finally be free and independent and be able to develop, discover, and risk newer aspects of identity while solidifying older ones. Perhaps one day the aggressive family will be more willing to focus upon and address its own survival concerns and will no longer be preoccupied with its disparaging attitude toward the rebellious and now absent member.

Psychology service at WRAMC is just such a wayward member of the mental health family. For years, it viewed itself as oppressed and only provided those training opportunities and service delivery functions as leftovers given to an unwanted step child. There is sufficient evidence that on at least one occasion, this autocratic posture of psychiatry jeopardized the renewal of a full, 5 year reaccreditation status following a site visit; fortunately, this was reversed on appeal. As with the adolescent, with such a relatively abrupt departure from the main "support" system, a void was created as to the structure for training, services, and administration. In some instances, the structure that developed did so as a direct result of the individuals assigned and their well known areas of expertise rather than as a function of monitoring, processing, and evaluating the products and requirements of services and training. In short, the structure was not predicated on the required functions of the organization. It is no small wonder that, eventually, the developed structure and organization created and proliferated independent cells of function around the individuals' expertise with only a bare minimum of interface. The cells would eventually become impermeable and required systems of quality assurance well suited for one would be malaligned with another; quite clearly, there was no organizational glue. The clear and unequivocal feeling at that time however was to continue with the structure despite its inefficiency and confusion, in order to not appear failed in the eyes of the smiling Cheshire cat awaiting a "told-you-so" opportunity.

At the one-year anniversary of the separation when the newer organization needed consistency in its managerial personnel, it was forced to confront the losses of several key staff. Certainly, some degree of abandonment, isolation, and floundering were felt by those who remained. It became increasingly more difficult to dilute the negative consequences of such with fewer individuals to absorb it. This, coupled with significant personal and medical trauma experienced by two of the staff members, contributed to a sense of organizational despair.

Couched in all of these major stressors were clear indications of strengths and creativity that only required some fostering and nurturing. A prime illustration was the budget development and management.

Prior to the separation, budgetary resource management was contained within the Department of Psychiatry. Furthermore, it was not connected to quarterly workload productivity and more than likely was awarded on previous patterns of spending and demand; such is not the case now. Psychology service manages the entirety of its budget from TDY to supply and conference dollars and consultant contract fees. Now that it controls its budget, consonant with the hospital's decentralized budget process, there is the opportunity to develop it to meet resource requirements and changing training and or service missions. Presently, the configuration of the budget is a result of the profile it had acquired for expenditures under the Department of Psychiatry. Since that has changed, the profile will change as function of spending patterns. A key parameter of output is workload; however, and as you well know, wide fluctuations in workload, ultimately tied into supply dollars, are not viewed favorably by those in headquarters elements. Yet a key element to psychology's workload is often the number of hours, or weighted average, dedicated to psychological testing. Two things along these lines require fixing, and not only for those services that are separate (a) there needs to be a newer version of the weighted average since several newer tests have been made available and newer formats are now utilized to perform the more traditional ones. I'll be requesting that HSC examine this; (b) more importantly, the weighted average has got to be computed in the formula of workload for supply dollars since that is our greatest expenditure of that line item in the budget.

In general, the structure of the separate Psychology Service at WRAMC now requires a realignment and should be addressed from the perspective of function rather than that of politics or personalities. In fact, the typical and traditional subsections or directorships of MEDCEN psychology services may be the best and most efficient way to organize. Simply, there is no need to recreate the wheel that was functioning smoothly before. Budgetarily, separate fiscal management is viewed as both a positive and potentially troublesome activity. Now that it has been achieved, psychology can no longer dilute the effect of occasional fluctuations of workload which once would have been masked in the total roll up of the Department of Psychiatry's figures. It must therefore emphasize traditional and accurate workload capturing and recording strategies and minimize sources of error variance and spurious inflation. Furthermore, a thorough and systemic analysis of the output and resources utilization by psychology services needs to be conducted if valid measures of effort are to be achieved. Equally, psychological procedures and patients seen need to be computed in the total workload roll up. Otherwise, there is the danger that inflation and abuse of the current system of accountability of workload will continue.

Perhaps the most potentially beneficial outcome of the separation occurs in the area of training, specifically the Clinical Psychology Internship Program at Walter Reed. A series of reports submitted by previous accreditation site visit teams have noted how the direction of training of interns was a function of workload quantity and type funneled from various services of the Department of Psychiatry. The separation now permits psychology to develop its own resources for workload origin. However, this

separation will also require a substantive test-trial period since the referral sources within the hospital, are uncertain as to which referrals ought to be directed to psychology and which to our psychiatry colleagues. It would be wise for the psychology service to actively and aggressively define the parameters of its services to these referral sources. Otherwise, it will remain yet another out-patient mental health service in an institution dominated by the physician base and will not be seen as a credible or distinctive referral resource. This occurs at a time when our psychiatry brethren are insisting that all psychiatric and mental health presentations require a "rule-out" of any organic substrate as contributory or exacerbating.

Clearly, as a separate service, the impression given to interns in our Clinical Psychology Internship Program buttresses the autonomy of the profession. How many of us, as products of Army internship programs located within the psychology service of the department of psychiatry have experienced the second class health care provider status, with the internship itself as its origin of this perspective. This was not so in our academic home base; however, we soon grew accustomed to those who directed and controlled our delivery of services sometimes under the guise of a need to coordinate and orchestrate patient care. No less a desirable goal exist now, however, minus the subservience factor. Now an intern can truly identify himself as "one of" the disciplines of mental health rather than "part of" a discipline in mental health. Furthermore, with the newer by-products of this generation of interns, it is my belief that there will be a proliferation by the next generation of officers of the autonomous and independent self perception of the profession and will be even more intolerant of attempts to define it restrictively and coercively.

It is my intent that this wayward child of Walter Reed as seen by psychiatry, will continue to mature, becoming cognizant of its strengths and resources never before experienced or, more importantly, never before permitted.

THE STRUCTURE OF A PSYCHOLOGY SERVICE IN A MEDDAC
OR
A TALE OF A ONE-EYED MAN IN THE LAND OF THE BLIND

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Given the current state of staffing for clinical psychologists in U.S. Army medical facilities, it is more likely than not many new psychologists will find themselves dropped into Psychology Services which have been vacant for 12 to 24 months. They may also find no SOPs, no QAPs, dated or no assessment materials, and no idea where to start or what to do. This paper proposes to describe relevant resources (ARs, APA guides, and likely sources of support in each MEDDAC), sample structures (in QAPs, statistics gathering, and managing subordinate personnel), and guidelines for approaching structuring or re-structuring a Psychology Service for the novice psychologist/administrator. Doctoral programs and internships are wonderful places to learn the basics and intricacies of psychotherapy and assessment. They are woefully short on teaching administration, budget management, and quality assurance. This project found that time invested in learning the basics of each area paid off one hundred fold in productivity, quality, and unit satisfaction.

Given the state of staffing for clinical psychologists in U.S. Army Medical Department Activities (MEDDACs), it is likely many new psychologists who may also be new Army officers will find themselves dropped into psychology services which have been vacant for 12 to 24 months. They may also find no standing operating procedures (SOPs), no quality assurance programs (QAPs), dated, worn, or no assessment materials, an attenuated staff, and no idea of where to start or what to do. Dropped in such a situation, resourceful Army psychologists would look to their training. They are likely to find they have exceptional preparation in psychological assessment, psychotherapy, diagnosis, crisis management, et cetera, but little or no preparation in administration, personnel management, budget management, and quality assurance. Many respond to such a situation by burying themselves in clinical work and awaiting the end of their obligated service, thus passing the burden (now exponentially increased by another long vacancy) to their replacement. Others may respond by trying to learn by on-the-job training all the intricacies of clinic administration only to find frustration and the end of their obligated service before learning one tenth of the material. This scenario may contribute to the high rate of turnover in Army psychology and may continue the cycle.

This paper set out to describe relevant resources (Army Regulations [ARs], American Psychological Association [APA] guides, and likely sources of support in each MEDDAC), sample structures (SOPs, QAPs, methods and use of statistics gathering, and management of subordinate personnel) and some beginning guidelines for approaching structuring or re-structuring a psychology service for the novice psychologist/administrator. During the course of researching this project, it was discovered a separate paper was already under development

by Major Gregory Hollis, Ph.D., covering the ARs pertinent to psychology. Rather than attempting to duplicate Dr. Hollis's excellent review, the reader is referred to his paper also presented at this conference.

APA GUIDELINES

All 50 states have included into their legal codes for psychological licensure or certification APA's Ethical Principles of Psychologists (APA, 1989). By Department of Defense (DOD) directive in the late 1980s, all DOD clinical psychologists were required to maintain an active license or certification in one of the 50 states (DOD, 1985 as cited in Jeffrey, 1989). Therefore, whether one is a member of APA or not, one's license or certification can be jeopardized when Army policy and APA's principles come into conflict. Loss or restriction of one's license can also lead to an Army's decredentialing or reclassification of the health care provider or, in the worst case, loss of employment or commission.

This problem is probably best illustrated by the issue of confidentiality of psychological information gathered on active duty personnel. Jeffrey (1989) delineates many of the relevant ARs and APA principles which play in this issue. Simplified, perhaps overly so, APA states confidentiality is the property of the individual and can be relinquished only by written permission from the individual. Also simplified, DOD has had a long established history of command referral to medical facilities for evaluation with results not requiring a signed release to DOD employees with a "need to know." As Jeffrey points out, there is no written definition of "need to know." In his sample of 30 Army Psychologists, only one third of the respondents informed patients of the limits of confidentiality in this setting. Of those who did inform patients, less than half documented they had done so. If the statement by Ramses II "So let it be written, so let it be done" is true, then its obverse is also true: "If it was not written, it was not done."

Jeffrey noted another large area of conflict in the discussion of patients with other hospital staff. As he noted, ARs require no patient consent for disclosure of information to other DOD health care providers; however, such disclosure without expressed written consent violates APA guidelines (APA, 1981, 1987, 1989). Competent health care for many patients may require synergistic efforts by multiple health care professionals. It would become cumbersome rapidly to deal with each of these issues on a case by case basis. A "Limits of Confidentiality" statement coupled with a copy of the Privacy Act both signed by the therapy or assessment patient before implementing any intervention may serve as a balance pole as we walk the tightrope between the APA and DOD. As Jeffrey suggested, a systematic approach to protecting confidentiality while adhering to military policy and documenting one's efforts is the best system.

In his closing remarks, Dr. Jeffrey makes seven recommendations including the development of an ad hoc Committee of Division 19, APA, to study confidentiality and the DOD. Until definitive guidelines are published for handling basic confidentiality issues presented in the day-to-day business of a psychology service clinic, the APA publications and DOD directives listed in Table 1 should help in establishing local SOPs. Incorporating the guidelines and principles contained therein into local SOPs may be a way of reducing the likelihood of conflict between ARs and APA guidelines. In addition, consult the annotated legal code available from state licensing or certification boards

in which the MEDDAC is located. It is likely, if you have civilian personnel assigned, they will have local licenses and not incorporating local laws into your SOPs may jeopardize their licensure or certification should conflict arise.

SOURCES OF SUPPORT IN MEDDAC

The Hospital Commander (CDR) sets the tone for clinical services in the hospital. The CDR is the top Medical Corps (MC) Officer in the hospital. He or she can be of assistance if you have innovative ideas for expanding services, reducing CHAMPUS care costs, or providing positive relationships with the post or civilian communities. It is important the CDR be familiar with what psychology can do for the hospital and community. He or she is much more likely to understand and use the resources of different medical specialties. Depending on the CDR, he or she may not know how to tap or how important a resource psychology can be in the hospital.

The Deputy Commander for Administration (DCA) is the top Medical Service Corps (MS) officer in the hospital. As members of this corps on the "68 side," it is essential to keep contact with our counterparts on the "67 side." Boards for promotion and other personnel actions within the different corps are given different instructions and look at different aspects of qualifications for selection. What will be looked at as a necessity in one corps may not be noticed in another. It is also likely your rating chain in the MEDDAC will consist of MC officers (generally the Chief, Department of Psychiatry and the Deputy Commander for Clinical Services). The DCA can provide excellent guidance in establishing an MS officer as intermediate rater to ensure items are included in your Officer Evaluation Report to enhance your competitiveness with other MS officers. He can also provide guidance to resources in administration to assist in your endeavors to improve your service.

The Deputy Commander for Clinical Services (DCCS) is directly responsible for all clinical activities in the hospital. In most cases, the DCCS will be your senior rater. As such, it is important you have some continuing contact with him or her to provide information on what new things you have been doing and what new things you have planned. He can also help in coordinating joint service projects. For instance, Fort Campbell instituted a support group for bereaved parents who have suffered miscarriage, intrauterine fetal demise, perinatal death, or sudden infant death syndrome. The DCCS was integral in facilitating the organization of psychology, social work, obstetrics, pediatrics, nursing, and the chaplaincy to develop such a service. Taking advantage of such opportunities will increase the visibility of your service. The DCCS's office, in general, also coordinates the professional staff conferences, a forum for presenting new developments in health care. Presenting at these conferences affords the opportunity to teach physicians about what we do and how we do it.

The Chief, Clinical Support Division (C, CSD) coordinates the activities of the MS officers who provide direct administrative support to the various clinics in the hospital. One of the MS officers in CSD will have your service or the department assigned to them. They are tasked with assisting in ordering major items, managing budget issues, representing the service in various administrative meetings, procedures for developing manpower survey reports (schedules X) to increase personnel authorizations, desk top audits, and

various other administrative issues. The people in this division can be helpful in instructing you in many of these areas and which route to take to get what you want.

The Chief, Resource Management Division (C, RMD) is the individual with the money in the hospital; unfortunately, the U.S. Army Health Services Command (HSC), limits his or her use of it. This division provides fiscal management to the hospital. As such, it controls the size of budget, space allocations for clinics, manpower authorizations, and temporary duty (TDY) funds. RMD personnel also chair the various committees and coordinate with Logistics for the purchasing of major dollar items for the hospital. With the increasing automation of psychological assessment, this connection has become increasingly important. Purchasing equipment like scanners for Minnesota Multiphasic Personality Inventories (MMPIs) or computer integrated biofeedback systems will be adjudicated and prioritized by these committees. When or if you get the equipment will depend, in part, on how well you understand the system and how well you defend your request in terms of fitting in with the overall goals of the hospital and post.

Under RMD is the Manpower Section. It is responsible for the recruitment and retention of both active duty (AD) and Department of the Army Civilian (DAC) personnel within the hospital. They coordinate with Civilian Personnel Office (CPO) and post G-1 (Personnel) to maintain the best staffing possible. In some MEDDACS, the chief of this section will be the main liaison with CPO and contacts with CPO will be limited to this liaison. It is important to learn how your hospital handles civilian personnel actions before stepping on toes that may haunt you. Nonetheless, this section will provide assistance in understanding your part of the Table of Distribution and Allocations (TDA). This document is fluid to some degree in that, unlike a Table of Organization and Equipment (TOE) document, the TDA can be manipulated at the hospital level. For the most part, the direct manipulations are small such as temporary or permanent over hires. However, this section is also the hospital proponent for schedules X and desk top audits. Its personnel understand whatever yardstick is used for determining staffing requirement and are tasked with understanding and interpreting HSC guidelines on such matters. Since the yardstick is largely determined by number of patients seen, they also understand the counting of patient contacts and the various reports generated from such data.

It is vastly important to accurately count what you do. It is not enough to simply do good work. Essentially, when we report the number of patients seen by the service in a given month, we are sending in a voucher to a large insurance company. They will "pay" us for what we report we have seen within the parameters of what they expect us to be doing. Wildly fluctuating statistics will bring audits; and the tax man gives no quarter and takes no prisoners. The "pay" is in the number of authorizations for personnel. The "cost" for poor statistics is no staff and, someday, maybe no chief.

The Chief, Automation Management Office (C, AMO) has become an important contact for psychologists. Rapidly, much of our jobs are becoming computer oriented or dependent. Keeping up with changing technology and applications is a full-time job. The people in this section can provide the answers to the questions you might have. They can also work with you to develop automated systems to keep track of various things within your service such as patient flow, diagnostic groups, inventories of assessment materials, and the like. They also oversee the purchasing of computer software and hardware.

The Red Cross section of the hospital can be a source of temporary volunteers to fill empty spots in the service, particularly to back fill clerical positions when there is a brief under lap, emergency leaves, or sick leaves. Longer vacancies should be filled through personnel with temporary over hire actions. However, Red Cross volunteers can provide some support which might have had to be provided by a 91G or technician who is better used providing direct services. They can also be helpful in reorganizing, inventorying, and ordering assessment materials or the yearly retiring of closed clinic files or whatever project needs to be done and an extra hand would speed it along. How they can aid your service is limited only by your imagination.

Another source of temporary personnel support is the Commander of the Medical Holding Company (CDR, Med Hold Co). As the name suggests, this company is a holding ground for soldiers awaiting medical discharge or retirement. The medical board actions they await can take some time to complete. In the interim, they can work as seen fit by the CDR and within the limits of their medical conditions. This group tends to turn over relatively quickly, but again, for short term projects or a back fill for a temporarily vacant clerical slot, they may prove useful. It is also helpful to them by occupying their time as they wait.

The Noncommissioned Officer in Charge (NCOIC) of your clinic or department is a vital resource for information, solutions, and the implementation of any of your plans. Unfortunately, not all MEDDAC Departments of Psychiatry are graced with such a position. The absence of an NCOIC can lead to major difficulties in the day-to-day running of clinic activities as well as the long term planning of yearly training programs for assigned personnel. Normally, the NCOIC is your administrative counterpart. He or she will be responsible for things such as maintaining adequate stocking of supplies, running clinic duty rosters, coordinating leaves, ensuring coverage, planning training as needed, controlling keys/security, and maintaining, ordering, and receiving equipment. This is by no means an exhaustive list nor does it include any clinical duties, but it gives a flavor for the importance of such a position in your clinic. If there is no one in this slot or if the slot does not exist, it is important to find out who is doing some of these jobs or how they are handled.

Equally important to the smooth running of the clinic is the Secretary to the Chief of the Department of Psychiatry (Sec, DoP). He or she will probably be the one doing any jobs not done by NCOIC, plus coordinating the activities of the Chief of the Department. Some of the typical responsibilities of this office include preparing minutes of departmental meetings and quality assurance meetings, coordinating efforts between psychiatry ward and outpatient clinic, coordinating all personnel actions, and managing other clerical personnel.

The Chief, Department of Psychiatry (C, DoP) will most likely be your rater. He or she sets the pace for overall clinic policy into which your service must fit. Working closely with the Chief to establish the parameters of Psychology Service is essential to easy operations.

SOP AND QAP OUTLINES

SOPs are designed to provide basic instructions on the handling of routine business in the clinic. They discuss the mission of the section, who is authorized in each section, and how those people will accomplish the mission. In Table 2, a brief outline is provided of some sample issues good for inclusion in a basic SOP. As one considers all of the functions of a clinic, writing about how to do all of them can be quickly overwhelming. However, the SOPs are for very basic procedures, reference, and philosophy of the unit. They are not intended to be a tool of micromanagement, but guides from which employees can choose their behaviors to enhance the overall thrust of the sections.

QAPs are somewhat different from SOPs in that they lay down criteria for adequate performance of the various tasks in the clinic. With the current movement toward Total Quality Management within HSC, QAPs are likely to become more important. For the psychology service, there are two main areas which require QAPS: assessment charts and therapy charts. Figures 1 and 2 contain sample quality assurance check sheets for the administrative requirements of assessment and therapy charts. These check sheets allow for a simple and relatively quick quality assurance screen of basic documentation. Once monthly, some number of charts are randomly selected and reviewed. One copy of the check sheet for each chart is forwarded to the QA coordinator in the clinic and another copy is placed in the chart. Deficiencies are brought to the attention of the health care provider maintaining the chart so that correction can be made.

Another area under QA is the supervision of 91Gs and civilian psychological technicians. This area is more difficult to quantify for easy disposition with check sheets; however, it would seem important to have some criteria and standards. Perhaps, in future conferences, others will suggest a good, systematic plan for adequate supervision.

SOME GENERAL GUIDES FOR THE FIRST-TIME PSYCHOLOGY SERVICE BUILDER

Paramount to being able to accomplish this task, limit the number of patients you include in your case load. At many posts, you are likely to be the only show in town, or one of two. A heavy case load will limit your ability to manage the administrative requirements of your part of the clinic. The second guideline is to relax and accept that this is a long process requiring patience and consistency rather than manic bursts of energy. List all of the issues you must address and take them on one at a time.

CONCLUSION

With but one eye newly opened, one can only identify the problematic terrain, not easily cross it. Solutions will be conceived and implemented by senior Army psychologists with both eyes open. Those with more knowledge of Army systems, more practiced balance on the tightrope of ARs and APA ethics, and strong commitment to both the Army and psychology are better placed to create uniform basic criteria for the operation of clinics. If, as a united front, we do not actively develop and pursue solutions to the rapid turnover of junior officers, it will not be solved for us. If we do not develop and demonstrate to the deciding powers of the Army our role in peace and war,

slowly our numbers will diminish. As much as psychology is a science and a healing art, it is also a business. We must begin to teach and practice good business sense.

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Table 1

USEFUL APA PUBLICATIONS, DEPARTMENT OF THE ARMY AND DEPARTMENT OF DEFENSE GUIDELINES

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Table 2

SAMPLE SOP OUTLINE

1. Mission
2. Authorized TDA - Clinical Psychology Service
3. Duties (including job analyses & crediting plans for civilian jobs) for each position.
4. Policy on statistics reporting
5. Clinical Psychology Files - Psychotherapy
    a. Composition of file
    b. Intake reports and treatment plans
    c. Note structure
    d. Supervision/staffing
    e. Medications
    f. Closing of case
    g. Requests for information about patients
    h. Policy on no-shows, late cancellations, and cancellations
    i. Quality assurance plan
    j. Storage and security of files
6. Clinical Psychology Files - Assessment
    a. Composition of file
    b. Flow of requests for assessment
    c. Expected turn around times
    d. Note and report structure
    e. Closing of file
    f. Requests for information about patients
    g. Storage and security of files
7. Management of assessment material and expendable supplies
8. Infection control
9. Safety
10. Physical security plan
11. Off duty employment

Figure 1

QUALITY ASSURANCE CHECK SHEET FOR ASSESSMENT CHARTS

PATIENT: _____ DATE: _____
TECHNICIAN: _____ REPORT WRITER: _____
RESPONSIBLE CLINICIAN: _____ AUDITOR: _____

CLINICAL PSYCHOLOGY SERVICE: ASSESSMENT CHART AUDIT FORM

I. Administrative

_____1. Assessment Tracking form completed
_____2. Limits of Confidentiality form completed
_____3. Privacy Act form completed
_____4. Patient name and date on all forms
_____5. All notes dated
_____6. No material unsecured in chart
_____7. All assessment materials scored correctly

II. Report

_____1. Identifying data
_____2. Referral source
_____3. Chief complaint and pertinent history
_____4 Assessments administered
_____5. Assessment results
_____6. Diagnosis
_____7. Recommendations

Figure 2

QUALITY ASSURANCE CHECK SHEET FOR PSYCHOTHERAPY CHARTS

PATIENT: _____ DATE: _____
THERAPIST: _____ AUDITOR: _____

CLINICAL PSYCHOLOGY SERVICE: PSYCHOTHERAPY CHART AUDIT FORM

I. CLINIC CHART

A. Administrative
_____1. Psychology Service Information Form completed
_____2. Privacy Act Statement signed
_____3. Limits of Confidentiality Statement signed
_____4. Patient identification information on each SF 600
_____5. Supervisory note(s) and signatures
_____6. All notes dated
_____7. No unsecured material in chart
_____8. Physician signature for medications

B. Intake
_____1. Identifying data
_____2. Referral source
_____3. Chief complaint
_____4. History of present complaint
_____5. Pertinent client history
_____6. Mental status exam
_____7. Diagnostic Impression
_____8. Plan

C. Case Staffing Note or copy of SF 513 consult
_____1. Identifying information, presenting complaint, & brief hx
_____2. Mental status exam
_____3. Initial Diagnosis
_____4. Recommendations

D. Progress notes in "SOAP" format
E. Chart note updated at least quarterly or case closed
F. Closing note

_____1. Reason for closing
_____2. Initial diagnosis and closing diagnosis
_____3. Summary of treatment
_____4. Recommendations if any

II. Medical Chart

A. Copy of case staffing note or consult
B. Medication note(s) with therapist and physician signatures
C. Copy of closing note

A SURVEY OF INTERNSHIP SATISFACTION AMONG ARMY PSYCHOLOGISTS

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A questionnaire to assess satisfaction with internship training was mailed to Army psychologists. The survey was designed to compare satisfaction with Army and civilian internships, satisfaction with different Army internship sites and satisfaction with training in 12 content areas. Respondents were also asked to assess the value of co-location of Army psychology internships and psychiatry residencies. The results were interpreted as providing a generally favorable assessment of Army internship training, although several topics were identified where improvement may be needed (forensic issues, use of computers in psychological assessment, impaired professionals and instruction regarding APA). The comparisons between Army internship sites yielded more similarities than differences. Wide disparity of opinions exist about the merits of psychology and psychiatry training program co-location.

While preparing for an internship accreditation site visit to be held at William Beaumont Army Medical Center (WBAMC) in March 1989, the author discovered that no surveying of graduates regarding their satisfaction with their internship training had been conducted for many years. At that time, controversy continued to exist about a proposal to close the WBAMC internship. It was decided to survey as many Army psychologists as possible, rather than only surveying recent WBAMC graduates, in order to compare the level of satisfaction of WBAMC intern graduates with those graduating from other Army internships and from civilian internships. One of the WBAMC staff provided an internship survey instrument which had been previously used at the Silas B. Hayes Army Hospital (Ord) internship. That form was edited and amended to include a request for respondents to compare the quality of training provided at the existing Army internships and to evaluate the affect of internship co-location with a psychiatry residency training program. This latter question arose during debate over the relative merits of conducting an internship at WBAMC versus at Tripler Army Medical Center.

METHOD

An internship survey was mailed, as nearly as possible, to every active duty 68S psychologist (120 surveys mailed). In addition to demographic and professional information about the respondent, the survey form solicited responses to 61 items related to that psychologist's assessment of, or satisfaction with, his/her internship training. Those responses were to be made using a five choice rating scale. A numerical value from 1 to 5 was to be selected with 1 corresponding to the lowest level of satisfaction or least degree of training and preparation and with 5 corresponding to the highest. These items dealt with a broad array of training areas including military topics, health psychology, marriage and family problems, child evaluation and treatment, evaluation and treatment of adults, psychodiagnosis, neuropsychology, forensic issues and other professional issues. In addition,

all psychologists with military internships were asked to compare the training provided at the existing Army internship sites and to rate the desirability of a psychology internship being located in the same facility as a psychiatry residency. Respondents could either characterize all sites as comparable or could rate them numerically. Desirability of co-location with a residency was assessed through a 5-choice rating scale, with 1 meaning co-location was highly advantageous, 3 being neutral and 5 meaning co-location was highly disadvantageous. Narrative comments were solicited at the conclusion of the survey. The survey form will not be reproduced here due to space limitations but a copy is available upon request from the author.

A total of 70 surveys were completed and returned. The distribution of ranks of respondents was: 41 captains, 12 majors, 15 lieutenant colonels and 2 colonels. Seventy percent of respondents were licensed. Four had received the Diplomate from the American Board of Professional Psychology or the American Board of Professional Hypnosis (one each in Clinical Hypnosis and Counseling Psychology, two in Clinical Neuropsychology). Thirty-seven percent reported being listed in the National Register of Health Service Providers in Psychology. Eighty-nine percent reported that they belong to the American Psychological Association. The mean age of respondents was 37.5 years with a range of 26 to 52 years.

RESULTS

Because of the different (and often small) size groups of respondents, the different numbers of survey items in the various comparisons being made, and the ordinal data generated through use of rating scales, statistical analysis of these data was felt not to be appropriate.

Table 1 contains a summary of the mean ratings for all content areas. In addition to the overall averages, separate ratings are presented for respondents with Army internships and those with civilian internships. A rating of 3 was the intermediate rating value (between 1 and 5) and corresponds to a semantic rating of "basic preparation" or "basic skills." Only for the topic area of "forensic issues" was the mean rating for civilian internships higher than that for Army internships. As one would expect, the topic area where there was the greatest discrepancy in favor of Army internships was in the area of "military topics." The areas rated highest were all related to psychological assessment ("adult evaluation" 4.0, "diagnosis" 4.1 and "overall assessment" 4.2). Child treatment and evaluation rated lower than adult treatment and evaluation. Although rated relatively low for both groups, child evaluation and treatment appeared to be rated even lower by psychologists from civilian internships than by those from military internships. With the exception of the generally higher ratings for assessment and for adult (versus child) topics, the ratings for the remaining topics were rather even (ranging from 2.8 to 3.3). The one exception was an average rating of 3.6 for "marriage and family."

Comparison of mean ratings for the same 12 topic areas between different Army internship sites is depicted in Table 2. The next to last column contains the range of the differences in the ratings for the four currently operating internship sites. The final column depicts the average ratings for the three individuals who attended the Army internship at Letterman Army Medical Center (LAMC). While those ratings were included for reference purposes, their

significance is limited due to the small number of respondents and the fact that the training program has been closed for 15 years.

Where the range of ratings appear relatively large and where that difference in ratings appears to be produced by one or more scores that are discrepantly high or low, "Hi" or "Lo" appears under the discrepant score. For six topics the range of ratings between internship sites was felt to be of dubious significance. The ratings for training in child evaluation, child treatment and marriage and family were all notably low by respondents attending the Walter Reed Army Medical Center (WRAMC) internship. The rating of the training in "marriage and family" at WBAMC appeared discrepantly high. All other discrepant ratings were high ratings of training at WBAMC in the areas of adult treatment, health psychology and professional issues.

Besides comparison between ratings of training at different sites, Table 2 permits comparison to be made of satisfaction ratings among various topic areas. It is suspected that the low mean rating of 2.7 for "forensic issues" reflects a consensus of at least moderate dissatisfaction regarding the adequacy of training in that area, particularly at Dwight D. Eisenhower Army Medical Center (DDEAMC).

In addition, comparison of single items contributing to "professional issues" shows three items to be consistently and discrepantly low in that group of eight items. Adequacy of training in the area of "computer based testing and interpretation" yielded an average rating of 2.5. While some of the low ratings in this area were made by senior psychologists whose internship preceded widespread use of computers in testing, low ratings on this item were distributed among junior psychologists as well. The greatest consensus for low ratings for the entire survey occurred on the items about training regarding "the dysfunctional health care provider" and training about "the organization and structure of APA," each with a rating of 2.3.

The 61 respondents from Army internships were asked to rank the training provided at the four existing internship sites. Table 3 depicts comparison of rankings of the training provided at the four existing internship sites made by 35 respondents. Fourteen respondents ranked all four sites as "not significantly different." An additional 12 did not rank the sites at all. It should be remembered that while the ratings of training satisfaction depicted previously (in Tables 1 and 2) were made by respondents of their own internship, the rankings depicted here involved comparison of Army internship sites by each respondent.

The first column in Table 3 shows the mean "confidence level" rating (again on a scale of 1 to 5). Below the average rankings for each training site, average ranking scores are provided for respondents from that site graduating in 1985 or later. Below the mean ranking of each site is the ordinal rank assigned based on comparison of the mean ranks. Where ties occurred for first and second place, both received an ordinal rank of 1.5 (as was the case for respondents from Silas B. Hayes Army Hospital [Ord] and the WRAMC internships). Where ties occurred for the first three places, all three were assigned an ordinal rank of 2 (as was the case for respondents from the DDEAMC internship).

The five DDEAMC graduates rated their own program as equivalent to those at WRAMC and WBAMC but rated Ord lower than the other three. When the one pre-85 graduate was omitted, WBAMC was rated first and their own program was rated second.

Ord graduates ranked their program equivalent to that at DDEAMC, with WBAMC and WRAMC placing third and fourth respectively. The recent Ord graduates differed only in ranking their own program ahead of, rather than tied with, DDEAMC.

Six WRAMC graduates ranked their program as equivalent to WBAMC with DDEAMC and Ord following, respectively. Recent WRAMC graduates differed only in ranking their program ahead of, rather than tied with, WBAMC. WBAMC graduates, both since and before 1985, concurred in ranking their program first, followed by Ord, DDEAMC and WRAMC.

Table 4 shows the distribution of value ratings assigned to co-location of a psychology internship with a psychiatry residency. The frequency of votes in each category is presented for respondents from each internship site as well as an overall total. Mean ratings, both by site and overall, are shown in the bottom row. The distribution of ratings appears to be an almost symmetrical, bimodal distribution with almost equal numbers believing that training program co-location detracts and enhances psychology internship training. Few respondents expressed neutral evaluations although 16 respondents refrained from expressing an opinion. A strong consensus against co-location was observed among WBAMC graduates, with a mean score a full point away from neutrality. The Letterman and Ord graduates' mean rating was nearly neutral. The DDEAMC and WRAMC graduates showed a positive evaluation, with mean scores which were 0.7 and 0.8 points more favorable than neutral. Both positive and negative evaluations were obtained from respondents from each and every site.

DISCUSSION

The conclusions to be drawn from comparison of internship satisfaction ratings between Army psychologists with Army versus civilian internships (Table 1) appear to be that Army internships provide at least comparable training. The somewhat lower satisfaction rating of graduates of civilian internships in child evaluation and child treatment may relate to the majority of those internships being in Veterans Administration hospitals where children are not seen. In general, the similarity of levels of satisfaction is felt to be more significant than the differences.

Comparison of ratings between the existing Army internship sites (Table 2) also yielded far more similarities than differences. The differences all appeared to consist of relatively lower ratings of training at WRAMC in child and family related areas and high ratings of several training areas at WBAMC. The former finding would appear to reflect the limited training available historically at WRAMC working with children due to barriers erected by the Department of Child and Adolescent Psychiatry. The only training area rated relatively high at WBAMC for which an explanation appears obvious is that of health psychology. WBAMC is the site for the Army Health Psychology Fellowship and has been specially staffed and funded to support training in that area.

Comparison of satisfaction ratings among content areas suggests that greater attention may need (a) to be devoted to forensic issues, (b) to training regarding use of computers in psychological assessment, (c) to addressing problems associated with impaired health care providers, and (d) to teaching about APA. This survey did not address the issue of training priorities. Internship staffs commonly bemoan the inadequacy of a year (or even 13 months) to provide all the training that is needed to be fully prepared to function as an independent service provider. It remains to be seen whether additional training could be provided in the areas identified above without compromising the apparently adequate training in the other areas. These results may be construed as providing support for the need for a 2 year internship or residency.

It would seem reasonable to expect that respondents satisfied with their Army internship training would rate that training high compared to other training sites. Indeed, that seems to be the norm, judging from the results of the rankings depicted in Table 3. No group collectively ranked their own program lower than second place. Two sites failed to receive (outright or "untied") first place rankings from either the group composed of their total alumnae or from their recent graduates. Those sites were DDEAMC and Ord. Only WBAMC received a mean ranking of first place by both groups of graduates. Programs receiving top place ranking (either outright or by tie) from groups of graduates from other programs included DDEAMC (1), WRAMC (1) and WBAMC (3).

There was an interesting phenomena regarding the assignment of last place ranking. Graduates of the two "East coast" sites (WRAMC and DDEAMC) uniformly ranked the Ord site last. The "Western" programs (Ord and WBAMC) uniformly ranked WRAMC last. The reason for this is far from clear but is suspected to have something to do with inter-program rivalry and folklore promulgated at the training programs. The WRAMC and Ord sites are perennially the most preferred by applying interns. Perhaps their frequent low ranking would be predicted among attendees of other programs as reflecting a "sour grapes" phenomena, in keeping with dissonance theory. Why this should be manifested only by graduates of the more geographically remote sites, is unclear.

It must be said that there is great disagreement about whether co-location with a psychiatry residency detracts from or enhances psychology intern training. While the low rating of the WRAMC site for child and family training is believed (by the author) to be a direct result of its co-location with a Child and Adolescent Psychiatry Department (with its Child Psychiatry Residency), most of the WRAMC graduates rated co-location with a residency as an advantage. During the author's tenure on the WRAMC staff in the late 1970s the tension between the Psychology Service and the large Departments of Psychiatry and their residencies felt intensely oppressive and restrictive. These results suggest that this phenomena may be experienced more acutely by the training staff than by interns. Perhaps the briefer exposure of the interns as well as some "interference running" by the staffs may shield interns from some of this negative experience.

Review of the narrative comments at the conclusion of the questionnaire revealed many comments consistent with the data described above. The "wish lists" for training program modifications were highly varied and appeared often to reflect particular interests of the individual psychologists. Problems reported included several complaints about personal characteristics of a staff person at Ord in the mid 1980s and a report of intern "abuse" through mandatory

Saturday dissertation work in a recent year at DDEAMC. There was also a complaint about the disadvantage of assigning junior psychologists to an internship staff position.

CONCLUSION

These results are interpreted as providing a generally favorable assessment of Army internship training, although several topics were identified where improvement may be needed. The comparisons between Army internship sites yielded far more similarities than differences. Coincidentally, or otherwise, the WBAMC site seemed to most frequently stand out both in the assessments of its graduates and in the eyes of other program graduates. The irony of its being chosen for closure next summer must be appreciated by many Army psychologists.

Table 1

Comparison of Satisfaction Between Army and Civilian Internships
Summary of Average Survey Satisfaction Ratings

(Survey Respondents)	Totals (70)	Army (61)	Civilian (9)	(Difference)
Topics (# of survey items)				
Marriage and Family (3)	3.6	3.6	3.4	0.2
Child Treatment (5)	2.9	3.0	2.2	0.8
Child Evaluation (4)	3.0	3.1	2.5	0.6
Adult Evaluation (13)	4.0	4.0	3.9	0.1
Adult Treatment (10)	3.6	3.6	3.5	0.1
Overall Assessment (1)	4.2	4.3	4.0	0.3
Diagnosis (2)	4.1	4.1	4.1	0.0
Neuropsychology (4)	3.3	3.4	2.9	0.5
Health Psychology (4)	3.2	3.2	2.8	0.4
Forensic Issues (2)	2.8	2.7	3.0	-0.3
Professional Issues (8)	3.0	3.1	2.5	0.6
Military Topics (5)	3.1	3.2	2.3	0.9

Table 2

Comparison of Army Internships Sites
Summary of Average Survey Satisfaction Ratings

(Respondents)	Totals (61)	DDEAMC (8)	Ord (20)	WBAMC (19)	WRAMC (11)	Range Difference	LAMC (3)
Topics (# of survey items)							
Marriage and Family (3)	3.6	3.3	3.6	4.1 HI	3.0 LO	1.1	(3.4)
Child Treatment (5)	3.0	3.0	3.3	3.2	2.3 LO	1.0	(2.5)
Child Evaluation (4)	3.1	3.4	3.3	3.3	2.1 LO	1.3	(3.2)
Adult Evaluation (13)	4.0	4.1	4.0	4.0	3.9	0.2	(3.8)
Adult Treatment (10)	3.6	3.2	3.5	4.1 HI	3.4	0.9	(2.9)
Overall Assessment (1)	4.3	4.4	4.3	4.4	4.2	0.2	(3.7)
Diagnosis (2)	4.1	4.2	4.2	4.1	4.3	0.2	(3.2)
Neuro-psychology (4)	3.3	2.9	3.3	3.5	3.6	0.7	(3.5)
Health Psychology (4)	3.2	2.8	3.2	4.0 HI	2.8	1.2	(2.0)
Forensic Issues (2)	2.7	2.2	2.7	2.9	2.6	0.7	(3.3)
Professional Issues (8)	3.1	2.7	3.1	3.5 HI	2.9	0.8	(2.5)
Military Topics (5)	3.2	3.4	3.5	3.3	2.9	0.6	(2.0)

NOTE. Where the difference between the high and low scores is large and the distribution of scores appears uneven, "HI" and "LO" denote apparently discrepant scores.

Table 3

Comparison of Internship Rankings
Summary of Average Rankings

Respondent's Internship	Information	DDEAMC	Ord	WBAMC	WRAMC
Totals	2.95	2.37	2.57	1.83	2.75
DDEAMC (5)	2.25	2.20	3.20	2.20	2.20
Rank		2	4	2	2
Since 1985 (4)	2.33	2.25	3.00	2.00	2.50
Rank		2	4	1	3
Ord (11)	2.89	2.00	2.00	2.18	3.00
Rank		1.5	1.5	3	4
Since 1985 (7)	2.82	1.50	2.00	2.29	2.57
Rank		1	2	3	4
WBAMC (13)	3.11	2.69	2.62	1.31	3.08
Rank		3	2	1	4
Since 1985 (8)	2.70	3.00	2.38	1.00	3.25
Rank		3	2	1	4
WRAMC (6)	3.18	2.50	3.33	1.83	1.83
Rank		3	4	1.5	1.5
Since 1985 (3)	3.00	3.33	3.67	1.67	1.33
Rank		3	4	2	1

Table 4

Comparison of Value Ratings of Co-Location with Residency
Distribution of Frequency and Means of Ratings

	DDEAMC	LAMC	Ord	WBAMC	WRAMC	Totals
Rating						
Greatly enhances (1)	1	1	4	1	4	11
Slightly enhances (2)	3	1	2	1	4	11
Neutral (3)	1		2	1		4
Slightly detracts (4)	1		3	4	2	10
Greatly detracts (5)		1	2	6		9
Mean Rating	2.3	2.7	2.8	4.0	2.2	2.9